

**NATIONAL STRATEGY  
FOR SUSTAINABLE  
DEVELOPMENT FOR THE  
SLOVAK REPUBLIC**

**2001**

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# 1. SUSTAINABLE DEVELOPMENT, ITS PRINCIPLES, CRITERIA AND INDICATORS

The notion of **sustainability** and **sustainable development** began to be used at the beginning of 1970s, in particular after having realised that any uncontrolled growth (of population, production, consumption, pollution, etc.) is unsustainable under the condition of limited resources.

Sustainable development in Slovakia is legislatively defined by the Article 6 of the **Act 17/1992 on the environment**. According to this Act it is *“development allowing both the current and the future generations to meet their basic living needs without reduction of nature diversity, while preserving natural functions of ecosystems.”*

**Sustainable development** means a targeted, long-term (continual), comprehensive and synergetic process, affecting conditions and all aspects of life (cultural, social, economic, environmental and institutional) at all levels (local, regional, global), oriented to such a model of a certain community (local and regional community, country, international community), which meets biological, material, spiritual and social needs and interests of people, while eliminating or considerably reducing interventions threatening, damaging or destroying conditions and forms of life. It does not burden the landscape over the bearing capacity, reasonably uses its resources and protects the cultural and natural heritage.

Assessment of individual strategies, concepts, programmes and activities in relation to sustainable development can be carried out on the basis of the following **16 principles** (control of human activities) and **40 criteria** (assessment of application of principles):

## 1. Principle of support of human resource development

Criteria:

- ensuring protection of human health
- ensuring optimal development of human resources (in all areas useful to life)

## 2. Ecological principle

Criteria:

- maintenance and support of biodiversity, vitality and resistance of ecosystems,
- optimisation of spatial arrangement and functional use of the landscape and ensuring its spatial system of ecological stability
- ensuring and support of life supporting systems
- maintenance of high quality of environmental components – minimisation of adverse impacts on the environment
- minimisation of use of non-renewable resources and preferential use of renewable resources within their reproduction capacities

## 3. Principle of auto-regulatory and self-supporting development

Criteria:

- revealing and using natural and anthropologically simulated auto-regulatory and self-supporting natural mechanisms

support of closed production and consumption cycles

#### 4. Effectiveness principle

Criteria:

maintenance of optimal cycles of material and energy

minimisation of inputs of minerals and energy

reduction of output volumes and loss minimisation

introduction and support of instruments of environmental economics

#### 5. Principle of reasonable sufficiency

Criteria:

reasonable and economical resource use and protection

support of proper forms of self-supply

#### 6. Precautionary principle

Criteria:

preferring preventive measures rather than removal of undesirable consequences of activities

respecting potential risks (including those unverified)

#### 7. Principle of respecting needs and rights of future generations

Criteria:

maintenance of possibility for future generations to use existing resources

maintenance of equal rights for future generations

#### 8. Principle of intra-generational, inter-generational and global equality in rights of the Earth inhabitants

Criteria:

ensuring human rights in all areas and systems

ensuring national, racial and other equality

ensuring rights of other living creatures

#### 9. Principle of cultural and social integrity

Criteria:

preferring development based on internal development potential instead of mechanically imported development

maintenance and renewal of positive values of the landscape, social and cultural identity

support of local colour, folk culture and spiritual atmosphere

reviving of traditional activities with sensitive use of up-to-date technologies

support of spontaneous forms of aid or self-aid

#### 10. Principle of non-violence

Criteria:

application of peaceful and consensual management methods

non-utilisation of any forms of violence

#### 11. Emancipation and participation principle

Criteria:

enforcement of reasonable level of de-decentralisation and involvement of community members

creation of working opportunities and providing access to goods and services

participation of inhabitants in decision-making and public control strengthening

#### 12. Solidarity principle

Criteria:

implementation of tolerance and understanding

support of mutual assistance and shared responsibility

#### 13. Subsidiarity principle

Criteria:

transferring competencies to the lowest acceptable hierarchical level and bringing them closer to a citizen

#### 14. Principle of acceptable mistakes

Criteria:

preferring approaches allowing return to a starting situation – minimisation of irreversible changes with unpredictable consequences

publishing failures and mistakes without delay and their prompt removal or alleviation

#### 15. Optimisation principle

Criteria:

targeted management and harmonisation of all activities towards balance, removal of unwanted consequences, instability and risk sources

seeking and supporting public activities with multiple positive impacts

#### 16. Principle of socially, ethically and environmentally sound economy, decision-making, management and behaviour

Criteria:

application of all the above-mentioned 15 principles in synergy of political, legal, economic, organisational, educational and other tools in support of value orientation, creation of culture and value determination as well as in creation, activity and building of competent institutions

A challenge for Slovakia is to transfer principles of sustainable development into daily behaviour, to assess all planned and implemented activities, using criteria of sustainable development, and to assess orientation towards sustainability with a help of a set of sustainable development indicators.

A single set of 132 indicators of sustainable development (125 of them applicable in Slovakia – 38 social, 23 economic, 49 environmental and 15 institutional) was negotiated and adopted by the UN Commission for Sustainable Development (CSD)

at its fourth session as late as 3 May 1996 in New York. Slovakia was a CSD member in the 1996-2000 period.

## **2. ENFORCEMENT OF SUSTAINABLE DEVELOPMENT IN THE WORLD – A CHALLENGE FOR SLOVAKIA**

### **2.1 ENFORCEMENT OF SUSTAINABLE DEVELOPMENT WITHIN THE UNITED NATIONS**

#### **2.1.1 The UN Conference on Environment and Development (Rio de Janeiro, 1992)**

The **UN Stockholm Conference on Human Development** (1972) has become a symbol of growing concern in the environment and development. Within the UN structure in 1983 the **World Commission on Environment and Development** (WCED) was established, which in its report “*Our Common Future*”, adopted at the 42<sup>nd</sup> General Assembly of the United Nations on 11 December 1987, launched a new era of socially and environmentally sustainable economic growth and the definition of the sustainability notion. The **United Nations Conference on Environment and Development** (UNCED), held in Rio de Janeiro in 1992, declared a fundamental support to sustainable development. The Conference adopted four fundamental documents: the **Rio Declaration (27 principles)**, the Convention of Biological Diversity, the Framework Convention of Climate Change and **Agenda 21 (40 chapters)**, establishing a basic starting point for preparation of sustainable development strategies at all levels. In accordance with a recommendation of the United Nations, its member states should work out and adopt the **national strategies of sustainable development by the end of 2002**.

#### **2.1.2 The UN Commission on Sustainable Development**

In the autumn 1992, the UN General Assembly established a **Commission for Sustainable Development** at the Economic and Social Council (ECOSOC), which is created by 53 states of all world regions with certain modifications. Its role is to support implementation of the UNCED documents at national, regional and world levels. The Commission at its fourth session adopted the above-mentioned 132 indicators of sustainable development. Besides that it worked out and implements a multi-annual, thematic working programme, oriented to selected chapters of Agenda 21 which constitute a programme of annual sessions (support to application of environmentally sound technologies, co-operation in capacity building, change of consumption and production patterns, funding, protection and use of all types of forests, air protection, climate change, drinking water supply and water for irrigation, education and information, territorial planning, landscape management, sustainable development of settlements, energy, transport, industry, tourism, etc.).

#### **2.1.3 World Summit on Sustainable Development (Johannesburg, 2002)**

At the ninth session of the CSD in April 2001, the attention was concentrated on preparation of the **World Summit on Sustainable Development** (WSSD) which will

be held on 2-11 September 2002 in Johannesburg in the South Africa. Representatives of the UN member states will assess an overall development of the world from the point of view of implementation of Agenda 21 during last ten years. The WSSD should also revive at the highest political level the global commitments to sustainable development and accelerate fulfilment of Agenda 21 objectives. The main objectives of WSSD include:

assessment of progress made from the point of view of Agenda 21 implementation, including state of problem solution, working out achievements and experience,

in particular progress in demographic development, combating poverty, human health protection, education and edification for sustainable development, use of information and expert institutions in the decision-making process, involvement of the major groups of the society, changes in consumption and production patterns, funding sources and mechanisms, trade, energy, transport, tourism, agriculture, human settlements, transfer of environmentally sound technologies, combating desertification, protection of forests, air and water – key source for sustainable development – oceans and seas, preserving biological diversity, disposal of hazardous substances and waste management;

emphasising new challenges and opportunities, which appeared during 10-year period after UNCED, affecting implementation of sustainable development;

proposing further objectives, steps, measures and support of institutional and financial management of sustainable development;

finding routes towards strengthening of institutional framework for implementation of sustainable development.

#### **2.1.4 UN programmes and UN agencies**

**Of the UN programmes**, in particular the following ones are oriented to support of sustainable development: **United Nations Environment Programme** (UNEP) and **United Nations Development Programme** (UNDP), which manages a number of funds (for example the UN Fund for science and technology, the UN Revolving Fund for research of natural resources, the UN Capital Development Fund). There is the **Consultative group for international agricultural research** at UNDP oriented to elimination of poverty and the **World Commission for forests and sustainable development** oriented to sustainable forests.

The **UN agencies** dealing with sustainable development include, for example: United Nations Educational, Scientific and Cultural Organisation (UNESCO), Food and Agriculture Organisation of the United Nations (FAO), World Health Organisation (WHO), International Labour Organisation (ILO), International Atomic Energy Agency (IAEA), World Bank (WB), World Meteorological Organisation (WMO), World Trade Organisation (WTO), United Nations Industrial Development Organisation (UNIDO).

## **2.2 ENFORCEMENT OF SUSTAINABLE DEVELOPMENT WITHIN THE ORGANISATION FOR ECONOMIC CO- OPERATION AND DEVELOPMENT**

The **Organisation for Economic Co-operation and Development** (OECD) plays an important role in addressing problems of macro-economy, environment,

agriculture, trade, production, scientific approaches and technologies, development aid and fiscal policy. The Slovak Republic became the thirtieth member of this organisation on 14 December 2000. The OECD orients its activities in particular to achieve sustainable economic growth, employment and to increase living standard in the member states, while maintaining financial stability in relation to global sustainable development, to achieve reasonable and safe economic expansion in both the member and non-member states and to develop world trade at multilateral and non-discriminatory basis in accordance with international commitments. Within the framework of its priorities it has included into the **OECD Environmental Strategy for the First Decade of the 21<sup>st</sup> Century** to implement sustainable policies of the OECD member countries with a focus on co-operation with the non-member countries in the area of building institutional and personal capacities and transfer of technologies. A communiqué concerning support of sustainable development was approved at the **meeting of the environment and finance ministers** of the OECD member countries (17 May 2001), which was preceded by the OECD Forum 2001: *Sustainable development and new economy* (Paris, 14-16 May 2001). Based on the declaration of the OECD ministers of May 1998, that achieving sustainable development is one of the key priorities for the OECD countries, conceptual plans in climate changes, technology development, sustainable development indicators and environmental effects of subsidies have been supported. At the same time it was agreed that it was necessary to strengthen sustainable development trends within the framework of integration of social, economic and environmental policies (policies to enhance sustainable development).

### **2.3 ENFORCEMENT OF SUSTAINABLE DEVELOPMENT WITHIN THE EUROPEAN UNION**

Implementation of sustainable development belongs to the priorities of the **European Union (EU)** policies, in particular after the summit of the European Council in Cardiff (Jun 1998). However, as early as year before, the EU submitted at the fifth session of the CSD (8-25 April 1997) a special report on meeting a number of indicators of sustainable development prepared by the EU Statistical Office (next report on sustainable development indicators was worked out by EUROSTAT at the ninth session of the CSD in 2001). The **Cardiff initiative** of the European Council proposed to implement a two-pillar model of sustainable development for the EU, which was in March 2000 at the **Lisbon summit** extended, adding the third – structural – pillar (socio-economic), in order to ensure integration of environmental policy with economic policy. One year after the Lisbon summit the European Council defined next strategic objective – to introduce a new economy based on higher level of competitiveness and dynamics of knowledge with possibility of sustainable economic growth positively affecting employment and social cohesion. The dimension of the environment was added to this objective at the **Stockholm meeting**. The **Draft Strategy of Sustainable Development: Sustainable Europe for a better world** (submitted to the European Council in June 2001 in Göteborg) is oriented to 6 priority issues – climate change, negative impacts on human health, increasing pressures on use of natural resources, poverty and social differences, dynamics of population development and pollution of the environment. Dominant sectors are agriculture, energy, transport, industry and tourism. Their development is not acceptable without taking into account the environmental conditions and viewpoints. This fact was reflected also in the **Fifth Environmental Action Programme of the EU** in 1992 (Towards Sustainability). The **Sixth Environmental Action Programme, which is currently under preparation**, is oriented mainly to

application of and compliance with regulations and more consequent implementation of adopted measures. It will be presented at the pan-European Conference on sustainable development in Malmö (Sweden) on 27-29 June 2001.

A challenge for Slovakia is to properly implement intentions of the EU from the Sustainable Development Strategy and from the Sixth Environmental Action Programme in preparation of legal acts and development documents in Slovakia within the framework of the pre-accession process.

## **2.4 STRATEGIES OF SUSTAINABLE DEVELOPMENT IN SELECTED COUNTRIES – CHALLENGES AND SOURCES OF EXPERIENCE**

The UNCED recommended that the UN member states work out and **adopt national strategies of sustainable development by 2002**. National strategies of sustainable development, adopted so far, represent documents, which are diverse from the point of view of structure, extension, quality, details and bodies responsible for their preparation.

### **2.4.1 USA: Sustainable America – A New Consensus (1999)**

Application of the **National Strategy of Sustainable Development**, containing introduction into this issue, characterisation of problems, indicators and recommendations categorised according to sectors, is guaranteed by the US President together with a committee consisting of important personalities.

**Main areas:** 1. Health and the environment, 2. Economic prosperity, 3. Equality, 4. Nature protection, 5. Administration, 6. Sustainable communities, 7. Civic involvement, 8. Demographic situation, 9. International responsibility, 10. Education.

### **2.4.2 United Kingdom: Strategy of Sustainable Development (1999)**

The **UK Strategy of Sustainable Development** stresses importance of social dimension. Each chapter contains draft key activities and commitments as well as a set of indicators to assess achieved progress. The Strategy supports process of de-centralisation, application of subsidiarity principle and the devolution principle (“governance to people”).

**Main objectives:** 1. Social progress reflecting needs of each individual, 2. Efficient protection of the environment, 3. Economical use of natural resources, 4. Maintenance of high and stable level of economic growth and employment.

### **2.4.3 Finland: Towards Sustainable Development (1997)**

**Main objectives:** 1. Maintenance of the current level of economic development, 2. Maintenance and development of technology and know-how, 3. Management of the environment and natural resources, reduction of emissions of toxic substances, 4. Support of identity and culture, 5. Ensuring democratic institutions and human rights, 6. State defence.



#### **2.4.4 Sweden: Strategy of Sustainable Development (1994)**

The **Swedish Strategy of Sustainable Development** presents in particular these **main principles**: 1. Precautionary principle, 2. Best available technology principle, 3. Polluter pays principle, 4. Principle of rational use of natural resources, sustainable development and closed cycles of production management.

#### **2.4.5 Support of sustainable development in selected states**

**China** in its strategy of sustainable development stresses in particular Agenda 21 and its application under the national conditions with a state guarantee, with involvement of ministries and other authorities at national and regional level.

**Denmark** has concentrated on real implementation of principles and criteria of sustainable development in practice (mainly in energy, ecological agriculture and tourism).

**Guayana** determined the Ministry of Finance as a main responsible body in preparation of sustainable development strategy. There is a Secretariat working at the Ministry of Finance, which involved a lot of experts and representatives of major groups in the preparatory process.

**Canada** divided responsibility in preparation and application of sustainable development among ministries and the Ministry of Finance also adopted an integrated understanding of sustainable development in preparation of its component of the strategy. All partial strategies are subject to annual updating and ministries submit a report on application of sustainable development to the Parliament.

**Germany** has concentrated on reflection of environmental requirements and objectives as well as sustainable development principles (e.g. de-materialisation of production and consumption) in the sectors of the society in accordance with the EU Fifth EAP, stressing importance of NGOs, municipalities and public participation in preparation and application of sustainable development strategy. Prominent NGOs have worked out an alternative strategy of sustainable development.

**Switzerland** has laid down time limits to achieve defined objectives in priority sectors and created conditions to carry out measures.

**Belgium** adopted the first Federal Plan for sustainable development for the 2002-2003 period in 2000 at the level of the Council of Ministers as a framework for partial federal governmental policies.

#### **2.4.6 Sustainable development in the states of Visegrad group**

The states of Visegrad group have not worked out comprehensive strategies of sustainable development yet. Taking into account the fact that these states are neighbours of Slovakia with similar history and strategic partners of Slovakia in the integration processes, exchange of experience, mutual co-operation and co-ordination of activities in sustainable development enforcement are highly desirable.

#### **2.4.6.1 The Czech Republic**

The Government Council for sustainable development has not been established so far. Its role is partially covered by the Government Council of the Czech Republic for economic and social strategy. Of the partial strategic documents, adopted in the course of the 1990s, the 1995 State environmental policy and the 1999 State policy of the Czech Republic for the environment are the most important for sustainable development. A UNDP project "Towards sustainable development in the Czech Republic - building conditions" is being carried out.

#### **2.4.6.2 Hungary**

A document "Strategic plans, initiatives and activities for sustainable development: National report for the UN Commission on Sustainable Development and for UNGASS on implementation of Agenda 21 and principles of sustainable development" has been adopted by Hungary. Important documents to support implementation of principles and indicators of sustainable development include the National Environmental Action Programme for 1997-2002. The Hungarian Commission for Sustainable Development (established in 1993) is responsible for co-ordination of preparation and implementation of national programmes of sustainable development and co-ordination of international activities in this area.

#### **2.4.6.3 Poland**

The worked out document "Agenda 21 in Poland (1997) - a preliminary report for 1992-1996" characterises application of recommendations of Agenda 21 and principles of sustainable development in Poland for the indicated period. The Commission for sustainable development was established in 1994. In 1997, a Government Committee for sustainable and regional development was established. A main role of these bodies is to co-ordinate preparation of governmental documents, sectoral policies and strategies from the point of view of sustainable development.

A challenge for Slovakia is to utilise experience of creation and application of sustainable development strategies and experience of orientation towards sustainable development in particular in the most developed countries, countries of Visegrad group and other states comparable to Slovakia. The attention should be paid mainly to ethical principles, global liability and capacities of a small country in providing assistance in solution of international problems. Evaluation of sustainable development indicators, worked out by the Statistical Office of the Slovak Republic, should be discussed each year by the Government of the Slovak Republic.

### **3. STARTING SITUATION FOR ACHIEVING SUSTAINABLE DEVELOPMENT IN THE SLOVAK REPUBLIC**

#### **3.1 INITIAL STAGES IN APPLICATION OF AGENDA 21 IN SLOVAKIA**

##### **3.1.1 Slovakia after UNCED (Rio de Janeiro, 1992)**

The Slovak Republic agreed with accession to the **Rio Declaration and Agenda 21** by the Resolution of the Government of the Slovak Republic 118 of 8 September 1992. This Resolution assigned all Ministers and the Heads of other central state administration authorities of the Slovak Republic *“to utilise the results of UNCED and incorporate them into the sectoral programmes”*. In principle, application of principles of sustainable development has been reflected also in the **Article 55 of the Constitution of the Slovak Republic (the Act 460/1992)** and in the **European Accession Agreement agreed between the European Communities and their member states on one hand and the Slovak Republic on the other hand** (Luxembourg, 1993). The Article 72, paragraph 2 of the Economic co-operation reads: *“Measures of the economic policy and other measures will be intended to lead to economic and social development of the Slovak Republic and will be in compliance with the principle of sustainable development”*.

Since all the mentioned measures remained only in declarative position, the Slovak Government in its Resolution 655 of 16 September 1997 **concerning application of Agenda 21 and evaluation of indicators of sustainable development in the Slovak Republic** assigned the Ministers and the Heads of other central state administration authorities of the Slovak Republic *“to evaluate application of the individual Chapters of Agenda 21 and indicators of sustainable development in the Slovak Republic in accordance with the UN requirements and methodology and according to designated responsibility”*. At the same time, the Government initiated creation of the **Council of the Government of the Slovak Republic for Sustainable Development** which had its first session in 1999. Moreover, starting from 1998, individual bodies responsible for indicators of sustainable development were to request the Office for Statistics of the Slovak Republic to include relevant statistic indicators into the **Programme of the State Statistic Data Gathering**. This part of the Resolution remained unfulfilled, though a number of indicators monitored by the Office for Statistics are identical with indicators of sustainable development. Even the fact, that **Slovakia as the first associated country published translation of the whole Agenda 21 with all 132 indicators of sustainable development** (Ministry of the Environment of the Slovak Republic, 1996), was not very helpful in this matter.

A number of activities on the regional or local levels can be evaluated positively. These activities were initiated by municipal self-governments, universities, scientific or research institutes and interest groups (e.g. Society for Sustainable Life, People and Water, Regional Environmental Center). **Ideas of sustainable development or selected parts of local and regional Agenda 21 have been successfully implemented in a number of towns and cities, enterprises and are becoming a part of education at universities, secondary and primary schools.**

Activities, which are important from the point of view of sustainable development, include introduction of ISO 14000 in enterprises, Programme of Village Renewal, UNDP Small Grant Programme for Sustainable Development, projects oriented to support of utilisation of renewable sources of energy. A Rural Parliament is being created and many community associations are quite active. The **Aalborg Charter of sustainable development of cities** can be mentioned as far as activities of international character are concerned (participation of the Slovak cities of Banská Bystrica, Košice and Poprad). Thirteen cities of the National Network of Healthy Cities participated in the WHO Healthy City programme. A special attention should be paid to the Brundtland City programme (Rajec).

### **3.1.2 Documents supporting the National Strategy of Sustainable Development**

Based on Agenda 21 and indicators of sustainable development, the following documents should have been worked out and approved prior preparation of the National Strategy of Sustainable Development (NSSD):

Strategy of the State Social Policy,

Strategy of the State Economic Policy,

Strategy of the State Environmental Policy.

While the Strategy, Principles and Priorities of the State Environmental Policy was approved by the Government of the Slovak Republic one year after UNCED (the Resolution 619 of 7 September 1993) and unanimously by the National Council of the Slovak Republic (the Resolution 339 of 18 November 1993), only some partial strategic documents were adopted in the social and economic areas. The Strategy of the State Environmental Policy was followed by the **first National Environmental Action Programme** (NEAP) approved by the Resolution of the Government 350 of 14 May 1996 and by the **second NEAP** approved by the Resolution of the Government 1112 of 16 December 1999. In accordance with the **Conception of Application of Agenda 21 and Evaluation of Indicators of Sustainable Development in the Slovak Republic (1997)** the Ministry of the Environment in co-operation with other involved central state administration authorities, which are responsible for indicators of sustainable development and Chapters of Agenda 21, work out on annual basis a **Country Profile** which is then submitted to the United Nations bodies.

**The Programme Declaration of the Government (1998)** mentions that "in accordance with the global trend in developed countries the principle of sustainable development is one of decisive principles of the programme of the Government, while environmental management has to become an integral part of each area of the social life...". Subsequently, in the period 1999-2000, the Government approved or included into its plan of activities several important cross-sectoral documents which are determined by principles of sustainable development or which support sustainable development. The **Conception of De-centralisation and Modernisation of Public Administration** (2000) is the most important of them. Some cross-sectoral documents are oriented to regional development, e.g. **Integrated Plan of Regional and Social Development of the Slovak Republic for implementation of the PHARE 2000 Programme, part 1 – National Development Strategy** (1999), **Plan of Rural Development of the Slovak Republic for implementation of SAPARD**

(1999), **National Plan of Regional Development** (2001). The third **Conception of Territorial Development of Slovakia 2001** is under preparation.

According to the **National Report “Towards Sustainable Slovakia” worked out by the Society for Sustainable Life (1996)** “Comparison of sustainable and really utilised environmental space showed that Slovakia in most of monitored commodities exploits its environmental space several times over recommended level. This concerns mainly energy and consumption of non-renewable resources as well as production and consumption of commodities produced on the basis of non-renewable resources”.

### 3.1.3 Classification and assessment of the starting situation

The starting situation for achieving sustainable development in the Slovak Republic is determined by conditions and perspectives in these main areas/spheres:

- cultural,
- social,
- economic,
- environmental.

Each area in mutual inter-connection with the others and influenced by them was **developing in a certain way in the past** and is characterised by the **current state** with both positive and negative phenomena, objects and properties, which creates **pre-conditions for further development** (zero scenario). This development can lead to **unsustainability of development** (to stagnation or decline – decadence). **Elimination of the second undesirable alternative** depends on existing and potential resources (human, natural, economic), way of utilisation and implementation of measures of conceptual, legislative, investment, institutional and educational character, which would be in accordance with principles and criteria of sustainable development and which would create pre-conditions for positive assessment of its indicators and achievement of its objectives at all levels:

national (in an international context),

regional (level of administrative regions and districts),

local.

From the point of view of principles and criteria of sustainable development, territories of all municipalities and all lands should be assessed, that means finally the whole country.

Specific **institutional and regional conditions and perspectives** are manifested in all of the four main areas. In the horizontal position they all can be assessed in the following ranking:

BASE as **existing human, economic and natural resources** (existing natural-social system including relationships between its individual components and elements) – capital which characterises a certain potential and its limits (describing available resources), which are evaluated using in particular quantitative indicators of the state;

PRESSURE as **demands (requirements) for resources and their utilisation** (real utilisation of resources), expressed using indicators of a “driving force” type (human activities, processes and models);

REALITY as a **current state of the society and country**, their components and elements, as well as problems and ongoing processes (consequence of resource utilisation) affected by certain factors, which is evaluated using in particular qualitative indicators;

RESPONSE as existence of adequate tools responding to consequences of resource utilisation – response to it expressed through specific indicators;

STARTING SITUATION FOR ACHIEVING SUSTAINABLE DEVELOPMENT as an **overall assessment of development and state of the society and country** comparing to the desired development and state oriented to sustainable development.

Development of natural-social system is a reflection of long-term mutual co-influence of the main factors and processes within the system. State and development of a certain element is described using a simple equation (which, however, in reality works very complexly and complicatedly):

**Development and state of society and country in relation to sustainable development = conditions and resources (human, economic, natural) + way of their use + consequences of their use + response of society.**

## **3.2 CULTURAL CONDITIONS AND PERSPECTIVES**

### **3.2.1 Classification of cultural conditions and perspectives**

The starting situation for achieving sustainable development in Slovakia in the framework of **cultural conditions and perspectives** is determined in particular by the development and state of:

settlements,

cultural heritage, historic structures of a country and monuments,

culture and its development,

awareness of people and education,

political and social system.

### **3.2.2 Settlements**

#### **3.2.2.1 Development of settlements**

Slovakia belongs to territories, which had been settled starting from the oldest times (findings of remnants of a man of the Neanderthal type from before 100,000 years in Gánovce, 22,800-year-old finding of Venus from the municipality Moravany nad Váhom). A more continual settlement can be dated from the Neolite.

The current **uneven distribution of inhabitants** is a result of physical and geographical conditions, historic development, economic development, changes in political organisation and population factors, which are manifested in particular

through regional differentiation of natural and migratory movement. **Lowlands** covering 41% of the Slovak territory are inhabited by 40% of the Slovak population. **Hollows and highlands**, with 52% density of population causing in a number of areas serious environmental problems, create a very important component of the regional settlement structure of the country. The largest part of the landscape structure is represented by **mountains and high mountains** (59.2% of Slovakia) which have low concentration of population. **Large cities** (more than 100,000 inhabitants) are inhabited currently by 12.8% of inhabitants (cities of Bratislava and Košice) and **cities with 50,000 to 100,000 inhabitants are inhabited** by 12.1% of the Slovak population. A relatively high share of inhabitants (16.8%) live in **cities with 20,000 to 50,000 inhabitants**. In 1998, 57% of the Slovak inhabitants (3,072 thousands) lived in **136 cities** and 29.4% of inhabitants lived in small municipalities with maximally 2,000 inhabitants.

The share of **rural population** has considerably decreased during last forty years. **Depopulation of rural areas** still continues, while the biggest decrease has been registered in the smallest municipalities. Adverse economic situation, ageing of population and other factors are manifested also in the limited building of basic infrastructure. From the point of view of protection of diversity of landscape and functions, which are fulfilled by these settlements, it is necessary (e.g. in the framework of **the Programme of Village Renewal**) to initiate activities oriented towards their revitalisation and to the reviving of the rural areas.

**Settlements** were being created not only as a result of the spatial planning and human activities, but as the historic developmental continuity of phenomena and functions (of societal, cultural, social and economic character) as well. In 2000, there were 2,898 municipalities in Slovakia. The number of municipalities increased by 44 municipalities in the period of 1991-1999 as a consequence of process of separation from the former central municipalities. Sustainable development of settlements should be a reflection of the process of cognition, evaluation of resources and potentials of the territory and application of principles of sustainable development in the community, settlement and region. Attracting the mobile (human and economic) capital to a defined territory is a key to sustainable development of settlements.

### **3.2.2.2 Consequences of the socialist phase of development in urbanism and in behaviour of the man in the landscape**

The phase of socialist development in Slovakia was represented by very intensive and centralised industrialisation and collectivisation in connection with very rapid and qualitatively weakened urbanisation and with industrialisation of agriculture (**relation to the Chapter 14 of Agenda 21**) – it was a so called “bringing village closer to city” process. When compared to the Western Europe, the urban processes were delayed and complemented with ideologisation of the life of the society, commanding centralised management system, excluding individuality and authenticity (originality) of the man and its environment.

The result of this development was very adverse in relation to a disturbed natural social structure of the society, undesired structure and quality of the cultural, social and political life with unnatural centralised system of public administration and organisation of economic activities, regardless the local and regional potential and character of the environment. This was leading to serious damage to the environment (**relation to the Chapter 7 of Agenda 21**), traditional forms of settlement (urban and rural structure – overpopulated cities and demographically devastated villages), architectonic composition (preferring the mono-functional

uniform industrial and housing development with a short lifetime and high energy intensity as opposed to the original gradually liquidated structure, in particular as regards historic centres of cities and towns), natural social structure of population (the rich, middle class and the poor). Decrease of social, cultural and environmental awareness was leading to gradual internal isolation and passivity of majority of the population which finally resulted into inappropriate behaviour in relation to the landscape, which used to belong “to all and to nobody”.

### **3.2.2.3 Rehabilitation of the settlement identity and urban processes at the end of the 20<sup>th</sup> century**

The end of the 20<sup>th</sup> century was characterised by rehabilitation of natural relationships in an inhabited territory. The **process of rehabilitation of municipal autonomy** and renewal of settlement identity of municipalities as an important part of a democratic society started. That was leading to establishing a mutually advantageous co-operation of municipalities in the framework of micro-regions. Rehabilitation of the municipal basis of the settlement structure resulted in creation of conditions for the **revival of social capital** in individual settlements, micro-regions and regions. Enhancement of this capital supports sustainable development (**the Chapter 7 of Agenda 21** – Promoting sustainable human settlement development).

Dynamic character of political, economic and social changes at the end of the 20<sup>th</sup> century in the **rural environment** brought some phenomena, which are perceived in most cases negatively. This includes changes in migration (growing depopulation in marginal regions), decline of agriculture from the point of view of employment and production, changes in values and in perception of relationship to land use, decrease of importance of public transportation. Unpreparedness of a large part of rural inhabitants to changes and the dynamics of these changes opened a gap between technical and economic aspects of modernisation on one hand and cultural and social processes on the other hand. Besides this, there are signals of a possible revival of rural areas – **return of inhabitants to rural areas**, first of all in suburbs of large cities, increased employment in production and service sectors, transfer to new strategies of family management as well as other positive aspects (self-supply, skills, consumer modesty, ability to combine various income sources, persistent family, neighbourly assistance, rate of social control).

Development of the current **urban environment** is characterised by the slowing-down of the growth of share of urban population (56.7% in 1991 and 57.0% in 1998), changes in the demographic indicators, growing importance of services in cities and creation of complex urban regions with accompanying growth of importance of road transport. Besides negative phenomena (increased occurrence of socio-pathological phenomena, appearance of consumer society, loss of social control, ageing of population, environmental and transport problems,...), the overall slowing-down of the quantitatively oriented urbanisation creates conditions for the qualitatively oriented development of urban settlements (better housing and services, rational land use, increased aesthetic level of the environment, urban life, stabilisation of the urban population).

The current situation on the territory of Slovakia can be characterised partially as a **conflict between the urban and rural environments**, which is manifested in a number of areas – socio-cultural, political and economic. Ongoing structural economic changes, connected to heightening of differences in technical and social infrastructure, supported by specific geographic conditions, contribute to **the deepening of inter-regional differences** and to **creation of marginal and core**



**region.** The social marginalisation is significantly manifested in the social area (in so called **problematic regions**) with a low economic and social level and with a high unemployment rate, where the processes of social recession are spatially cumulated. The situation requires **demarginalisation of the society**, based on individual approach to the regions.

The regional policy of the state responds to the mentioned problems in the **Integrated Plan of Regional and Social Development of the Slovak Republic** (the National Development Strategy of 27 October 1999) oriented to improvement of quality of life of inhabitants and social cohesion of the society, as well as to creation of conditions for sustainable development of Slovakia, strengthening of income growth and employment. This intention is reflected in a number of basic objectives – to increase gross domestic products to the level close to the EU average, to balance regional disparities and to improve the environment, to strengthen the social cohesion and social capital, to introduce and stabilise the effective institutional and regional arrangement of the Slovak Republic. The Government of the Slovak Republic, with its Resolution 923/1999 concerning this Plan, approved a regional division for implementation of the plan of regional and social development and utilisation of assistance from Phare 2000. It included Slovakia – East (the Prešov, Košice and Banská Bystrica regions), Slovakia – North-West (the Žilina and Trenčín regions), Slovakia – South-West (the Nitra and Trnava regions), while the priority will be given to lagging districts and the special attention will be paid to the Slovakia – East region. The **National Plan of Regional Development of the Slovak Republic**, oriented to development of regions, was adopted by the Resolution of the Government 240 of 15 March.

#### **3.2.2.4 Housing, housing construction, restoration of flats and other construction**

The **construction activity**, which relates not only to meeting the basic housing needs but to development of supplementary functions (cultural, social, environmental), is the most visible human activity in the environment. Construction activities are directly connected to utilisation of natural resources, modification of the human environment, conservation or damaging or even destroying of the cultural and natural heritage.

Development or stagnation of construction production and construction activities directly affects the growth and development of settlements and settlements structures. A flat or house provide social security and are the main precondition for functioning of the family and the household. Purchase, maintenance or restoration of a house or a flat is today the most costly investment of a common citizen. **Significant changes in housing construction** occurred after 1990 due to the transformation of the national economy from a centrally planned to the market economy. In 1991, the Government of the Slovak Republic decided to abandon preparation, implementation and funding of the complex housing construction. In 1993, the funding of the housing construction was considerably decreased and during the next period almost no resources were earmarked for activities of the former complex housing construction, except for construction of primary schools. The central funding ceased to exist and the new funding tools did not start to work.

Decline in financing the housing construction manifested itself in the number of **newly built flats**. While in 1990, in all forms of construction 24,705 flats were completed, in 1993 the number of completed flats was 14,024 and 1995 only 6,157 (24.9% when compared to the number of flats completed in 1990). Decline in new

housing construction was even more significant. While in 1990 construction of 37,883 flats started, in 1992 the number of flats which started to be constructed was only 6,711 and in 1994 only 3,809. At the same time construction of flats owned by the inhabitants started. For comparison: Totally 278,363 flats were completed in the period of 1981-1988, while in the 1991-1998 period only 85,741 flats were completed.

In 1994, the Government of the Slovak Republic approved the first **Conception of the State Housing Policy** for the period of 1994-2000. In 1995, the Government approved a new "Conception of the State Housing Policy till 2000" which defined the basic objectives for development of housing till 2000 and gradual steps to achieve these objectives. The Government also defined economic tools to support housing development in the area of subsidies, loans and taxation.

Since the beginning of 1990s, the **economic tools** became to develop in particular in the area of credit policy, which however has some features of subsidies, because all gradually introduced credit schemes oriented to the support of housing development include use of state subsidies. This connection to the state subsidies is either direct (the State Fund of Housing Development, construction savings) or indirect (mortgage credits). In the area of the state credit policy the following housing funding systems were being introduced: system of housing savings, state support provided to housing development and mortgage credits. In the framework of funding of housing development it is necessary to mention also the compensatory payments for material loss by the state for credits provided for construction of co-operative flats. This material loss constituted in the 1995-1998 period a sum of SKK 5,401.6 million.

The statistic data on the number of flats, which were completed or which started to be built, confirm that there has been some **gradual revival of housing development** since 1996. In 1996, in all forms 6,257 flats were completed, in 1997 there were 7,172 flats, in 1998 this figure was 8,234 and in the first half of 1999 the number of completed flats was 4,191 at total. The data on the number of flats, which started to be constructed, are even more favourable, when in 1996 the building authorities issued building permission for 6,443 flats and in 1998 even for 16,857 flats. Construction of 5,461 flats started in the first half of 1999 (62.4% when compared 1998). The reason of some decrease of the number of flats, which started to be built, was lack of financial sources in the State Fund of Housing Development in 1998. Insufficient financial sources are leading to worries that unfavourable trend in initiation of housing construction will probably continue.

Based on the structure of property forms of completed flats it is apparent that the prevailing part of housing construction was carried out in the **private form of ownership**, when more than 50% of flats were completed in the private sector each year since 1992 and even 74.7% of flats in 1998. It is a fundamental change of the structure of construction when compared to the period before 1990 when the share of housing construction in private ownership was ca one third of construction and the other two thirds of construction were constituted by co-operative and state flats.

Based on the 1991 census, there were 988,554 houses in Slovakia, of which there were 789,650 family houses. The number of flats was 1,769,307, of which 812,430 flats in family houses. The number of buildings for recreation was 21,116. In 1996, Slovakia had 508,544 one-flat family houses, 44,938 house with two and more flats and 1,730,268 flats. Approximately a half of available flats in Slovakia is situated in family houses with a relatively high standard of size and equipment, the second half

is situated in blocks of flats where the quality is very diverse and a considerable number of flats deteriorate due to the used technology and neglected maintenance.

As far as the **size structure** is concerned, almost 80% of flats are flats with three and more rooms. This high share is caused by the family houses with more rooms built mainly by higher-income groups of inhabitants. Construction of family houses has a decisive impact on the size of average flat area. In the first half of 1999, the average habitable flat area was 80.1 m<sup>2</sup> and average total flat area was 134.9 m<sup>2</sup>. Municipalities build in particular smaller 1-room and 2-room flats, which solve mainly the urgent problems of young families and households.

The blocks of flats built in the framework of **collective forms of construction** are inhabited by more than 50% citizens of Slovakia. Social composition of flat owners does not create good conditions for carrying out more demanding re-constructions and repairs. Special attention should be paid to housing of Gypsies.

**Lack of flats** still persists in particular in middle and big cities. From the point of view of sustainable development of regions it is a negative phenomenon (slowing down mobility of inhabitants and worsening employment conditions). The lack of flats relates also to **reduction of available flats** which is caused by deterioration of flats and their merging or modification to non-flat purposes (e.g. commercial) and by a **large number of uninhabited flats**. Estimated number of empty uninhabited flats reaches 5% to 9%. **Need of flats** in Slovakia reaches 180,000 to 300,000 flats, while housing of socially weak groups of inhabitants and groups of citizens with specific needs (e.g. physically handicapped) constitute special importance. Lack of flats relates also to **decrease of population growth** and **decrease of the number of new marriages**.

Relatively new flat stock (36 year on the average) from the 1946-1996 period constitute as much as 83% (the average in Europe is ca 70%). From the point of view of equipment its quality is relatively high. More than 75% of flats have a central heating and more than a half of flats are connected to the state gas system. Almost 90% of flats have a bath room or a shower. When compared to other developed countries, Slovakia on the average has a smaller number of flat units per capita. At the same time we have a higher share of flats with smaller area than the average in other European countries.

**Housing in rural areas is still disadvantaged (relation to the Chapter 31 of Agenda 21)**, in particular in economically weaker or backward regions, which hampers migration of inhabitants to rural areas (**relation to Chapter 14 of Agenda 21**) or at least slowing-down of their migration to cities. Occupation of existing available flats in rural areas yet constitutes a key pre-condition for achieving sustainable development of rural settlements (creating a sufficient social capital for maintenance, restoration and use of settlements).

### **3.2.2.5 Territorial development, territorial planning and building code – regulation of human activities in the landscape**

In 2000, the National Council of the Slovak Republic for the first time enacted a definition of **territorial development** as “development, which in a sustainable way meets basic living needs of people in the landscape without reducing the biodiversity, ensures optimal spatial arrangement and functional use of territory, environmental safety and resistance of constructions and facilities, creation and conservation of

territorial system of ecological stability, economical use of natural resources, protection of natural and cultural heritage”.

Territorial planning has become a basic instrument of the state environmental policy, which “systematically and complexly deals with spatial arrangement and functional use of territory, determines its principles and proposes material and chronological co-ordination of activities affecting the environment, ecological stability, cultural assets of the territory, territorial development and landscape creation in accordance with the principles of sustainable development”. While the **regional planning** is oriented to development of economic and social resources (**demand** with effort to overcome limits), the **territorial (spatial) planning** delineates environmentally optimal physical arrangements of objects and activities in a country (**supply** resulting from carrying capacity of territory with determination of limits) – “creates conditions for sustainable accordance of all activities in a country with a specific regard to environmental management, achieving ecological stability and sustainable development, economical use of natural resources and conservation of assets of natural and cultural heritage”.

**Up-to-date territorial planning** should be determined by integration of knowledge from a number of scientific areas (philosophy, sociology, history, archaeology, ethnography, environmentology, architectonic and urban planning, ecology and other disciplines of natural science). Process of territorial planning should involve all the concerned civic associations and non-governmental organisations (**relation to the Chapter 27 of Agenda 21**). The methodology of **cultural, historic and social topography** is also being used besides the territorial planning. The main objective of its interdisciplinary approach is to renew and conserve the mutual harmony of the man and his environment, which he uses and manages. Determining idea is constituted by an assumption to recognise historicity of the environment and necessity to restore **natural continuity of development**, based on the respect of values and determining properties of the environment. The methodology of cultural, historic and social topography identifies the potential of natural involvement of the man in relation to his environment. For preparation of a territorial planning documentation it suggests to proceed in consistent steps in accordance with the principles of sustainable development – i.e. to carry out analyses (with the aim to map resources, phenomena and potential in a concerned territory), to evaluate them and to set criteria, limits and development potentials, to define priorities and tools to achieve these priorities, to work out sectoral and territorial strategies, to create and introduce a system of legal acts, control, assessment and achievement of sustainable development in the territory.

In order to achieve optimal use of lands, real funding of preparation and implementation of territorial planning documentation (**relation to the Chapter 33 of Agenda 21**), which should be a result of a direct confrontation of requirements of all stakeholders (architectures, economists, sociologists, environmentalists, investors and in particular citizens) with real conditions of territories, which often include permanently unsolved property relationships to the land. The cadastral authorities are today (with several exemptions) procedurally and personally unable to fulfil their role in the land and proprietary-legal policy. Revival of housing construction, restoration of cultural monuments and building civic infrastructure considerably depends on increasing of attractiveness of this sector for private investors with reasonable motivational and stimulatory support from the state and self-governments (**relation to the Chapter 28 of Agenda 21**). This equally applies to financial institutions and to building and investment companies. These stakeholders act in particular in accordance with their business intentions. Therefore these construction and restoration activities have to become a profitable business activity with stable

conditions. Creation of good relationships and motivational environment requires prosperity of owners (reasonability, sufficiency in living standard) as well as economic development, prosperity and stability of the cities and the towns. **Consequent enforcement of the building code** is a pre-condition for removal of negative impacts of construction and mistakes of regional planning from the past and for ensuring environmentally friendly and safe housing construction and restoration in the future. Its enforcement from the side of the environmental authorities declined after 1996 when the district and sub-district environmental authorities ceased to exist. Reconstitution of independent local state administration for the environment should contribute to improvement of the situation. The Ministry of the Environment submitted such a proposal to the Government as early as 2000. An important positive role can be played from 1 July 2001 by the **inspection of territorial planning and building code** which was enacted within the Slovak Environmental Inspection. **Strengthening the supervision** by self-governments and non-governmental organisations and also from the side of the public should be also an important contribution. Demolition of illegal constructions should be taken for granted.

### 3.2.2.6 Constraints in sustainable development of settlements

The existing settlement structure of Slovakia and rate of urbanisation create good conditions for use of territorial potential of the country for sustainable development. Taking into account the fact that the settlement (**relation to the Chapter 7 of Agenda 21**) is a basic unit for assessment of sustainable development (similarly also for assessment of sustainable development of a community and region), the rational management of natural, cultural and economic resources and the human potential on the local level is a key to sustainable development.

Limiting factors, which hamper sustainable development of settlements, housing construction, effective use of buildings, dynamic construction activities and interests of nature and landscape protection as well as monuments of the Slovak Republic, include:

territorial planning, which does not take sufficiently into account the principles and criteria of sustainable development,

infringing the building code and weakened enforcement of the law in the territorial planning and building code as the main tools of the state environmental policy for achievement of sustainable development,

unsolved property and legal relations to real estates,

lengthy processes of property and legal settlement of heritages and transformations of ownership of real estates,

lengthy procedures of some cadastral authorities and building authorities after the cancelling of independence of their local state administration bodies,

untransparent system of register of available stock of flats and monuments, assets of cultural heritage and natural heritage in the country, as well as land register, which makes decision-making processes more difficult,

inappropriate distribution of the public resources and taxes between the state and the self-governments (**relation to the Chapter 28 of Agenda 21**),

unclear issues of ownership of technical infrastructure, in particular as regards responsibility for construction, ownership and management of infrastructure networks,

insufficient number of lands for investments and technical infrastructure,

regulation of prices for house-rent and housing services,

legal arrangement of rental relations disadvantaging the owners of a real estate,

unsolved issues of assistance to the socially dependent citizens and owners of threatened monuments,

missing resources for restoration and maintenance of deteriorating buildings, in particular monuments,

insufficient enforcement of the public interest; missing understanding and awareness of sustainable principles of procurement, funding and maintenance of the public and private estates,

undeveloped forms of commercial crediting of housing construction, development activities, missing capital for long-term investment,

missing integrated urban, monument protection and environmental practice and planning (**relation to the Chapter 8 of Agenda 21**).

In order to achieve **sustainable development of settlement communities** it is necessary to achieve in particular:

to a certain extent the self-sufficiency of local and territorial financial systems (**relation to the Chapter 33 of Agenda 21**), i.e. their higher participation in taxation on one hand and reduction of subsidies on the other hand,

justice, stability for a longer period, effectiveness of support to efficiency of local and regional economy,

redistribution of resources in order to achieve harmony between the needs and resources of the local and territorial self-governments (**relation to the Chapter 28 of Agenda 21**),

administrative unpretentiousness, transparency and simplicity from the point of view of control.

### **3.2.3 Cultural heritage, historic structures of the landscape and monuments**

#### **3.2.3.1 Value and potential of the cultural heritage**

**Cultural heritage**, which is often mistaken for a superstructure, means not only cultural monuments of material character, but spiritual values (world-view, religious, philosophical, ethic, aesthetic, social and other traditions) and awareness of real history (history of municipality, region, nation and state) as well. The spiritual values constitute a basic pre-condition of a strong, undeformed cultural awareness of individuals and awareness of the society as a whole. The cultural heritage, perceived in this complex way, constitutes an extraordinarily **rich potential** which is present and affects very strongly on all levels of identity building (personal, civic, national and also European). The cultural heritage in its relations creates a space for involvement

of citizens into the public issues, for increasing of attractiveness of the environment for housing, recreation, work and business, strengthening of identity of settlement and region, support of home feeling and knowing the environment.

### **3.2.3.2 Inter-connections between cultural heritage and natural heritage**

The current world-wide **trends in protection of cultural heritage and natural heritage** clearly lead to mutual convergence and co-ordination of activities in the framework of the environmental issues. Protection of a solitaire without taking into account the relations to the ambient environment and mutual impacts of changes (i.e. without protection of structures) finally leads to its isolation and subsequently to paradoxical position on the basis of contrast or to gradual extinction of the solitaire. **Protection of cultural landscape** unambiguously confirms the need of trends to complexly perceive this issue. The protection of cultural landscape integrates protection of cultural heritage (including traditional spiritual culture) with protection of the ambient environment into an integral and mutually enriching and inter-connected unit. The integrated approach to protection and proper use of the cultural heritage and the natural heritage, as well as preserved parts of cultural landscape, should become taken for granted in the process leading towards sustainable development.

### **3.2.3.3 Continuity of development of historic environment, introduction of new materials and technologies**

Until the beginning of the 20<sup>th</sup> century, the **principle of cultural continuity and environmental logic** was applied on our territory in construction activities and management with land resources. In this period the inhabitants of the Slovak countryside used to use the natural and cultural landscape in sustainable way which ensured for their families a modest existence, however, the country was able in this way provide future generations with living. The fact that work and industriousness were the most appreciated human characters points out at the modesty in consumption and hard way of life. Agricultural land was the basic existential certainty for all social groups, ownership of land was the criterion for the ranking of an individual in the social hierarchy (**relation to the Chapter 14 of Agenda 21**) until 1950s. A **new hierarchy of values** appeared by denying traditional cultural and ethic values and by changing the user relations to the land. The value system of the traditional building culture was characteristic by a phenomenon of quality, functionality, modesty in demands and by a phenomenon of verified cultural models, which appeared during the long-term development. A normative system, based on criteria of quantity, fashion and external presentation of welfare. Construction of expensive and energy intensive houses became one of the manifestation features of the era of consumption and welfare. Liquidation of private ownership removed motivation of a citizen in rural areas to invest his capital and work in his farm and land (**relation to the Chapter 33 of Agenda 21**). The land ceased to be a value; prices of building lands were very low. The most precious lands were wasted, lands with productive soils were built up, construction of houses did not require any large capital.

**Syndrome of closed residence** – privacy – became a new phenomenon. While the original architecture and urbanism tried to be communicative, to harmonise neighbouring real estates with the aim to create harmonious units, at present there is apparent atomisation of individual private residences. Such behaviour externally

leads to ignoring the character of ambient built-up area and isolation of new houses (construction of untransparent fences). Internal features of this phenomenon can be isolating behaviour of owners in a community, ignoring the neighbours (problems of vitality, communication and co-operation of neighbouring zones, etc.), minimal interest in public issues. This can apply also in blocs of flats in territories with high density of population (mainly in housing estates). From the point of view of sustainable development in communities and settlements, these trends can be assessed as considerably negative. At present these trends are being strengthened rather than removed.

The market conditions in the economy allowed **import of various construction materials, technologies and procedures**. Many imported architectonic elements and details are, however, in our territory useless and inappropriate. Traditional offer of construction materials and technologies started to be considerably changed, causing problems in particular at local level in ensuring an aesthetic look of city parts and municipalities (used colours and surfaces of houses, plastic windows, roof construction, construction of extra storeys, etc.), but also in application of domestic materials and technologies. Although, the **traditional folk architecture** and traditional building techniques are for us today a wonderful source of knowledge, their positive principles are only to minimal extent applied in the current architecture. Mastering a harmonious, integrated and sustainable development of settlements (**relation to the Chapter 7 of Agenda 21**) should be a starting point.

### 3.2.3.4 Monuments, their state, restoration and utilisation

The current level of knowledge in the area of **monuments** is determined by the register based on knowledge from 1950s to beginning of 1960s. Changes in approach to protection (from solitaires to structures) and in classification of values, as well as current state of monuments point out at the necessity of an overall re-identification from the point of view of potential protection and utilisation in the future. The tables 1-4 show the state of registering and assessment of monuments.

At the beginning of 1999, of the total number **12,455 real-estate cultural monuments** 2,501 monuments (20%) were **damaged**, 688 monuments were in **desolated state** (5.5%). 3,941 monuments (31.6%) are in **good state** and 4,457 cultural monuments (35.7%) are in **satisfactory state**. The remaining 868 cultural monuments (6.9%) are in "restoration". A part of monuments in this stage comes from 1980s due to insolvency or attitude of the owners, while many of them are also in very bad technical state.

*Table 1 Structure of monuments – state and development*

Year	1993	1994	1995	1996	1997	1998	1999
Number of monuments	37,278	37,540	37,599	37,774	41,337	40,751	41,532
of that real-estate	25,808	25,808	25,808	25,808	29,529	28,359	29,077
of that movable	11,570	11,732	11,791	11,966	12,078	12,392	12,455
Cancelled protection	40	27	13	12	37	55	-
Number of territories protected due to monuments	81	86	98	100	109	115	116



of that monument reserves	27	27	27	28	28	28	28
monument zones	54	59	71	72	81	87	88
protection zones					112/435		

*Table 2 Real-estate cultural monuments – ownership structure*

Ownership of monuments	1988	1993	1994	1995	1996	1997	1998	1999
State	3,777	3,626	3,491	2,663	2,631	2,625	2,064	1,995
Self-government	2,100	2,100	2,000	2,793	2,814	2,858	3,084	3,093
Church	2,097	2,590	2,664	2,705	2,716	2,730	2,827	2,830
Physical persons	2,520	2,931	3,029	3,084	3,120	3,167	3,523	3,593
Legal entities	0	323	448	546	685	698	894	944
total	10,494	11,570	11,732	11,791	11,966	12,078	12,392	12,455

*Table 3 Real-estate cultural monuments – technical state*

Technical state of monuments	1988	1993	1994	1995	1996	1997	1998	1999
Good	3,592	3,830	3,954	3,875	3,708	3,867	3,941	3,941
Satisfactory	3,480	3,881	3,904	3,981	4,253	4,182	4,275	4,457
Damaged	2,195	2,295	2,306	2,372	2,410	2,435	2,588	2,501
Desolated	808	761	760	698	697	698	686	688
In restoration	419	803	808	865	898	896	902	868
Total	10,494	11,570	11,732	11,791	11,966	12,078	12,392	12,455

Based on the analysis of the settlement structure and based on the comparison to the structure, which is protected by the Act 27/1987 on the state monument protection (i.e. to real-estate cultural monuments registered in the Central Register of Cultural Monuments and to territories protected due to the monuments), we can conclude that the territorial protection of monuments is structured as follows:

*Table 4 Territories protected due to monuments and cultural monuments relating to settlements*

Kind of territory/object	Number of settlements with protected territory and object	of that settlements in territory of the world cultural heritage
Monument reserves	28	4
Monument zones	88	1
National cultural monuments (except DP and DZ)	90	2

PR and PZ)		
Cultural monuments (except NKP, PR and PZ)	1 573	7
Total	1,779	14

PR – monument reserve, PZ – monument zone, NKP – national cultural monument

Historic structures can be found almost in all of 2,898 municipalities in Slovakia. Of the historic settlement structure, the monument reserves and monument zones constitute ca 4% of connected protected territories. There are 1,779 settlements with a territory or object protected due to monuments. Of 28 monument reserves, more than 20 have been declared only by Resolutions of the Government of the Slovak Republic and not by generally binding legal acts, while the declaration of the first urban monument reserves (e.g. Bardejov, Kežmarok, Kremnica, Levoča, Prešov, Spišská Kapitula) in 1950 by the Prague central government remained legally unconfirmed and can be therefor questioned. More than 60% of municipalities have legally protected real estates with cultural and historic values, which represent a selection of 9,453 real-estate cultural monuments (construction solitaires or groups of monuments – totally 12,490 monumental objects).

A specific element of the cultural heritage is constituted by 14 settlements with ambient surroundings, which are located on territories of 4 sites registered in the **List of the World Heritage** (city of Banská Štiavnica with its technical monuments, Vlkolínec, the Spiš Castle with surrounding monuments, historic centre of the city of Bardejov). These sites represent a symbiosis of the cultural and natural values of the territory.

International experience shows that multi-sectorally integrated financial resources invested in protection and maintenance of monuments, infrastructure building and landscape management contribute to cumulating of other funding, support development and attractiveness of regions and municipalities and solve the basic social issues, such as housing, employment, service development, trade, small and medium businesses and tourism, improvement of settlement structure (**relation to the Chapter 30 of Agenda 21**). Slovakia, however, does not have a cross-sectoral co-ordinating body ensuring these inter-connections, though a number of sectoral bodies deal with activities which directly or indirectly support protection and use of the cultural heritage, e.g.:

Ministry of Soil Management – agri-entrepreneurs, rural development (**relation to the Chapter 14 of Agenda 21**),

Ministry of Culture – register and protection of cultural monuments, professional staff (Institute for Monuments), control (Inspection for Monuments), supplementary support for owners of cultural monuments,

Ministry of the Environment – environmental science, territorial planning and building code, professional staff (Slovak Agency for the Environment and State Nature Protection of the Slovak Republic), environmental education,

Ministry of Economy – small and medium businesses, tourism,

Ministry of Labour, Social Affairs and Family – monitoring of employment, unemployment support, re-qualifications, public works,

Ministry of Education – preparation and approval of educational curricula, promotion of cultural awareness,

Ministry of Construction and Regional Development – housing and support of regional development projects,

Ministry of Interior – additional support for owners of cultural monuments.

### **3.2.3.5 Management of monuments and protection of historic environment**

A system of management of monuments, oriented to **conservation of material basis and presentation of cultural monuments**, has developed to protect historic structures of the landscape and monuments in the Slovak Republic. This system depends primarily on the economic potential of the state, municipalities and owners of monuments. Obligations of all owners of cultural monuments concerning their technical state, utilisation and presentation are determined by the **Act 27/1987 on the state management of monuments**. The Act facultatively defines participation of the state in compensation of increased expenses related to ownership and management of a cultural monument, which is being applied to very limited extent (when compared to situation in neighbouring countries).

The Act presented a positive contribution at the time of its approval. The biggest volume of investment (as much as 1 billion Czechoslovak crowns) went to restoration of monuments in 1980s, using a quite different methodological procedure and under different social and political conditions, which were considerably far from the concept of sustainable development. A number of cultural monuments were saved, some of them, however, deteriorated. A complex restoration of urban monumental reserves started, while their historic centres were, and in some cases still are, in very bad technical state. From the point of view of sustainability, the perspective is only to ensure a continual maintenance of monuments **with concentrating on conservation of the object of protection and on management of the whole historic environment**, especially landscape elements, of which it consists. Rescue activities in cases of threats of liquidation of monuments are not excluded. At the same time the state has to eliminate undesirable trends from the side of owners leading to threatening or even liquidating the values of cultural monuments. Relationship between environmental issues and protection of the cultural heritage has been stressed in the **Constitution of the Slovak Republic (the Act 460/1992)**, which says that: *“each person is obliged to protect and enhance the environment and the cultural heritage”,* while *“nobody is allowed to threaten or damage the environment, natural resources and cultural monuments over the level laid down by the act”*. An important step to creation of systematic conditions for protection of real-estate cultural monuments was **adoption of the Act 237/2000**, which considerably modified and amended the Act on territorial planning and building code. The Ministry of Culture worked out and submitted for further approval procedure a **draft Act on protection of monuments**, which brings a number of positive approaches from the point of view of sustainable development and environmental management. This leads to a symbiosis of two sectors (Ministry of the Environment and Ministry of Culture) and to creation of appropriate legal conditions for protection of monuments and landscape management. According to the new Act the role of the **Institute for Monuments** should be strengthened. Creation of the **Authority for Monuments and Regional Authorities for Monuments** with more powers is expected. Greater **involvement of non-governmental organisations and increase of interests of municipalities** in protection of monuments and its use for sustainable development of tourism are also counted on.

**Positive** role in protection and maintenance of monuments can be played by the **Slovak Chamber of Architecture** and by the **Slovak Chamber of Construction Engineers**.

Meeting the requirements resulting from the international conventions, in particular the **Convention concerning the protection of the world cultural and natural heritage**, will require more attention. The probable milestone was the Resolution of the Government of the Slovak Republic 384 of 2 May 2000 concerning the report of the cross-sectoral commission for the protection of sites registered in the List of the World Cultural Heritage. According to the report, the activity of this commission, replacing the former Slovak Committee for the Protection of the World Heritage under the responsibility of the Ministry of the Environment of the Slovak Republic, should be more oriented to practical management of monuments – both the declared and potential world cultural heritage in Slovakia. Co-ordination between the Ministry of the Environment, the Ministry of Culture and other sectors and municipalities was apparent also in this case. Enacting the specific protection of the world cultural heritage in Slovakia is also being expected.

### **3.2.3.6 Traditional skills as a tool of restoration of cultural monuments and historic structures of the landscape**

**Traditional skills and crafts** constitute one of the important tools in restoration of cultural monuments. These can be in principle divided into **three main categories**:

restoration, production and repair of movable objects,

restoration, maintenance, construction and repair of real-estate objects and buildings,

maintenance, production and management in the landscape.

Traditional skills and crafts play an important role in employment and in creation of sustainable job opportunities also in the most backward regions. These skills are not very much utilised in regions with high unemployment rate mainly due to economic recession – these regions however have valuable and important monumental components (e.g. regions of Spiš, Gemer), where use of such skills is desirable. There is still problem to find a qualified craftsman for maintenance and restoration of cultural monuments, therefor alternative technological solutions are being applied, which are not always the best choice from the point of view of monuments.

**Craft education** disappeared together with liquidation of individual private businesses in 1950s. Currently offered educational disciplines were not able to become a proper substitution. The need to re-introduce the craft education will grow with increasing requirements for professions in the area of maintenance and repairs of flats, buildings and monuments.

### **3.2.3.7 Funding of cultural heritage management**

Financial resources for cultural heritage management can be divided according to the origin into three main groups:

**basic resources** – are primary and main resource of funding by owners – through the state budget, municipal budget (**relation to the Chapter 28 of Agenda 21**), private savings, yields from operation and letting of buildings or from creation of reserve funds for repairs,

**supplementary (support) resources** – direct support resources (subsidies, grants, contributions and loans) and indirect support resources (tax exemptions, providing state guarantees on loans or reimbursement of loan interests by the state),

**supplementary (other) resources** – income from lotteries, collections, foundations, civic associations, material support in kind provided by the state, voluntary aid, etc.

The supplementary funding of cultural monuments and historic structures of the landscape is ensured mainly through **two public resources** – from the State Culture Fund Pro Slovakia in the framework of the commission for monumental management and through the District Authorities from the budget line of the Regional Districts. Since the beginning of 1990s, the support from these funds is still decreasing which points out at insufficient level of support provided by the state and the public finances. While in 1994 the contribution from the State Culture Fund Pro Slovakia for restoration of monuments was SKK 20.75 million, in 1998 this figure was only SKK 10.03 million. Larger subsidies, mainly for sustainable development of settlements and protection of historic structures of the landscape, were provided from the **State Environmental Fund**.

Municipal authorities play the most important role in funding of restoration of historic centres of the Slovak cities in 1990s (**relation to the Chapter 28 of Agenda 21**) despite the unfavourable financial situation (**relation to the Chapter 33 of Agenda 21**).

In 1997, the Ministry of Culture of the Slovak Republic worked out a **National Programme of Restoration and Renewal of Cultural Monuments** which should have solved the critical situation in funding and unsatisfactory technical state of the monuments and should have been a starting point for decision-making on the need to earmark financial support from the state budget (**relation to the Chapter 33 of Agenda 21**). The so-called monumental indebtedness was calculated on the level of SKK 200 billion. This objective became unrealistic and unachievable for investment and support from the side of the state and the programme remained unimplemented. On the contrary, the **Programme of Village Renewal** under the responsibility of the Ministry of the Environment, which was created at the beginning of 1990s and which developed more intensively as late as 1998, brought concrete results, even despite relatively small amounts of redistributed resources (annually ca SKK 10 million). Requirements of municipalities, however, were ca SKK 500 million, whereas the average amount of the grant was about SKK 50,000. The Programme was based on work with local inhabitants, preparation of territorial planning documentation, projects of municipal restoration, improvements of surroundings of municipalities and various promotion activities. 720 municipal authorities and 30 micro-regions were interested in implementation of such projects. The Slovak Environmental Agency and the Agency for Rural Development also actively participated in the Programme. The Programme demonstrated its vitality in revitalisation of the historic and social structures of the country. The **Nice Municipality Project** was equally successful activity, carried out under the responsibility of Ekopolis foundation and A-Projekt non-profit organisation, through which up to SKK 30,000 grants were distributed to support activism at local level with the aim of improvement of public areas. Since 1998, several hundreds municipalities and other applicants have received support. Important source of funds for the area of sustainable development of settlements and their historic structures should become from 2000 the resources of the European Union through the programmes CBC, SAPARD, PHARE and ISPA.

## 3.2.4 Culture and its development

### 3.2.4.1 Level of culture and conditions for cultural production

One of the main criteria, based on which the maturity of an individual, groups of people or a nation is assessed traditionally, is their cultural level. The notion of **culture** constitutes very diverse complex of attitudes of people to their environment, to other people, including moral, interpersonal relationships, approach to the living and lifeless nature, conservation of spiritual and material values, development of education, professional and general knowledge, positive traditions, support of creative artistic activities, etc. The culture is not only an outer expression, but also a real expression, internal feature of quality of life of an individual, nation and state. The culture, perceived in that way, is being created mainly by education in families, pre-school education, education in schools, extracurricular educational activities, direct and indirect influence of the immediate surroundings of each individual, especially taking into account the accepted values. **Culture of a nation** and state is being created even in a more complicated way. It is a permanent, long-term, continual process which started in the past and which will continue in the future, too. If the culture of the modern nation and democratic state is to qualitatively develop, **this process cannot go on without knowing and active reflecting the actual cultural heritage.**

The complex system of culture includes a number of components – education (curricular and extracurricular education), promotion, artistic activities, medial culture, minority culture, folk culture, and alternative culture.

Buildings and premises which serve to cultural life of inhabitants, artistic artefacts, activities of professional cultural institutions and groups, but also activities of non-professional cultural activities constitute values characterising cultural dimension of life of the Slovaks and nationalities living on the territory of our state.

Regeneration and revitalisation of the cultural heritage, looking for a new use of abandoned objects and premises, building community informational and cultural centres and support of revitalisation and growth of social capital of settlements is one of the main possibilities how to revive the economy and socially weak areas. These phenomena bring growth of self-trust, finding self-identity, creation of relation to the home and responsible behaviour in the environment.

In all types of human activities we can find a reflection of the personal culture as well as the culture of the environment, which is manifested in the culture of work and working environment, interpersonal relationships and quality of life in leisure time. The way of life, which was being modelled through generation and which was replicated on the basis of verified patterns of behaviour, was effective, besides others, because it respected the natural conditions. Such a rational message can be found also in the values of rural and peasant way of life, which used to be still typical for the majority of inhabitants in Slovakia at the end of 1940s. The basic values include positive relation to work as a basic human value, rational consumption, positive relation to the natural environment (the soil perceived as nourisher), thriftiness, self-sufficiency, ability to actively utilise the free time, creativity, activities manifested in the folk entertainment, folk artistic creativity, etc. In the second half of the 20<sup>th</sup> century the way of life in Slovakia was fundamentally changed leading to abandonment of traditional values.

An important factor adversely affecting the culture and the environment at present is the minimal involvement of inhabitants in the public issues. This is manifested as a

syndrome of tiredness caused by ten years of persisting social, economic and political problems. The inhabitants primarily satisfy their own basic needs, which can be a result of lack of money, time and energy. The need to increase the awareness of people and the society in issues of responsibility of the individual and the society for the natural, social and historic environment from the local up to the global levels is very urgent (**relation to the Chapter 36 of Agenda 21**). The basic conditions for existence and production of culture are determined by the economic and political system (**relation to the Chapter 33 of Agenda 21**).

### **3.2.4.2 Conditions of cultural development of the Slovak Republic**

In Slovakia there are 4,800 objects (buildings) with **facilities supporting cultural development** (museums, galleries, libraries, houses of culture, edification facilities). After 1948, a nation-wide network of cultural facilities has been established – only 3% of municipalities do not have any cultural facility. Differences are, however, in the number and level of functioning objects. Mainly in small villages these cultural facilities are being used for culture very rarely, there are many non-functioning libraries, culture houses and memorial rooms.

There is an estimate that one third of existing **culture houses and edification centres** are being used for activities of non-professional culture, first of all for activities of amateur groups. In 1998 there were 4,482 artistic amateur groups in Slovakia. This is just one third when compared to the situation before 1989, but it still demonstrates a high level of activity of amateur artistic groups.

The **National Edification Centre** and its organisations are the key institutions of cultural development in Slovakia. It can be said that at present activities are oriented in the direction recommended by Agenda 21. After completion of the information database, which is being built within the National Edification Centre, and after revival of activity of the research division, the activities recommended by Agenda 21 will be carried out even in a more complex way. Agenda 21 points out at the necessity to re-distribute the budgetary resources in favour of edification, transfer of costs to local communities and the necessity to receive funding from private donors (**relation to the Chapter 33 of Agenda 21**). Real **conditions for ensuring the culture and edification at regional and in particular at local levels** are insufficient – it is, however, probable that in relation to implementation of the Conception of Support of Culture and the Conception of Modernisation and De-centralisation of Public Administration these conditions will improve.

**Quality of mediated information** and its form is very important factor affecting sustainable development in relation to the culture. During last decades we witnessed a huge growth of popularity of TV programmes. TV as the most influential medium and information distributor considerably influences not only the social life but provides also recreation and in many cases leads to daily consumption and even addiction. On the other hand, TV is a source of information, which is in the period of information society very important factor of social orientation and participation. Quality of TV programmes is however questionable. Information (which would be in accordance with sustainable development) of edification, educational, reporting and local character, which would positively influence attitude building and awareness of people, including the youngest population, still misses. Presentation of violence and phenomena from the life of “high society” are in discrepancy with principles and criteria of sustainable development.

In 1998, there were 13 dailies published in Slovakia with periodicity 6 to 7 issues per a week and 6 dailies with periodicity 4 to 5 issues per a week, 104 weeklies and 270 journals with lower rates of periodicity. **450 journals were published for the general public.** Comparing to the situation in 1983 there was a considerable **growth in the number of titles of newspapers, journals and in the number of printed copies.** Exact statistical data on presentation of problems of cultural development, protection of monuments and cultural heritage and environmental aspects in individual media do not exist. It is however highly probable that information of regional information nature prevails over information of analytical and global nature. On the other hand, there are many journals dealing with the culture of housing, often sponsored by building firms, institutions, producers and specialised suppliers, which contributes to improvement of quality of housing. There are also a number of journals, which lead to decadence and which do not support sustainable development. On the contrary, only two journals deal with environmental issues (*Životné prostredie* and *Enviromagazín*).

### **3.2.5 Public awareness, education and edification**

#### **3.2.5.1 Level of public awareness and its components**

All components of **public awareness** (historic, cultural, social, environmental and legal) directly affect thinking and acting of the man (also towards the environment). Therefor the education and edification play a key role in achieving the sustainable development.

One of the main moving forces in the modern history was undoubtedly the ideal of national or state patriotism. It was affecting social events in the past and it does so at present. Historic awareness of the man is being formed gradually in a natural way – starting from knowing the history of one's family and region – and he identifies himself with it. Just this basis leads to real patriotism, to perceived relation to the nation, to the environment and to the state where he lives. Parents, family, the relatives and educators are the first decisive element influencing the formation of human awareness. These people are not professionals; they are influenced by their own experience and by their diverse interpretations of historic events. The second decisive element is school and teacher who should educate children in accordance with principles and criteria of sustainable development.

Scientific-popular production and art are probably the most effective in forming the human awareness. In order to achieve sustainable development of the Slovak national and state society it is necessary to create the best organisational, communicational, material and financial conditions (**relation to the Chapter 33 of Agenda 21**) for improvement of co-operation between the historic-scientific, historic-popularising and historic-artistic fields, their institutions as well as individual representatives.

An adequate institutional basis is necessary for development of a target-oriented historic awareness, built on the scientific basis, using popularising methods. This basis is created first of all by scientific-research (academic, archiving) and scientific-pedagogical (universities) institutions, especially by the Slovak Academy of Science and *Matica slovenská*. Along with these institutions a number of societies operate, activities of which support sustainable development. Various educational and edification facilities are the strongest ones, as far as the quantity is concerned.



Among them the museums, libraries and galleries have to be mentioned at the first place.

### **3.2.5.2 Education in national history, geography and literature and humanitarian education**

Education in the context of cultural aspect plays a special role in discipline of national history, geography, literature and in humanitarian discipline (**relation to the Chapter 36 of Agenda 21**). In the whole educational system these disciplines are given a special role, in particular in relation to building an attitude to the culture, protection and sustainable use of cultural resources and to building a personal identity.

The role of humanitarian education is to systematise and interpret information, which students receive outside the school, and to form in this way the value hierarchy of young people for the needs of an open, democratic society and sustainable development.

An approach based on the classic cognitive conception of education, oriented unilaterally on volume of knowledge, is still being used in education of humanitarian subjects in schools and in definition of their target structures. The educational system in Slovakia is based on a sum of information, but misses many activities and abilities. This situation is unsustainable. Moreover, education in humanitarian disciplines does not have an adequate position in the educational system. Generally, it is necessary to define qualitatively new target requirements and content of education. Their core subject at primary and secondary schools should be education in the area of national geography and nature, history, civic education, education on society, ethics and aesthetics.

### **3.2.5.3 Environmental education (Environmental academy)**

**Environmental education** should be in a modern democratic society an integral part of the educational system. Priority should be placed on **integration of cultural, natural, historic and social aspects**, resources and potential in individual educational subjects of the primary and secondary education as a part of broadly formulated process of environmental education (**relation to the Chapter 36 of Agenda 21**). Such integration could be implemented through educational curricula, development and application of practical skills and through support of creativity, awareness of the social, historic and natural environment (family, home, municipality, region).

**The objective of environmental education at schools** cannot be a mere adoption of the most important information from ecology as a biological science. It has to be oriented to reflection of the relationship among nature, environment and society in the general level as broad-spectral relationships and interdisciplinary approach to awareness and knowledge. The most important aspect is adoption of environmentalism and active involvement in environmental management. This is connected to **environmental ethics**, which is present in a broad spectrum of human activities. Revealing the causes of changes in global trends, theoretical starting points, futurological conceptions as well as role of education in the process of necessary radical change in the thinking of people and ecologisation of all aspects of social life (education, law, economy and politics).

**Preparation of teachers** plays an important role in this area. Professional profile of a teacher is being formed within the limits of a frame of experience and knowledge, which is different from profile of graduates from other humanitarian, exact and technical sciences. Certain complexity of knowledge should be manifested in the higher level of social maturity, sensitivity and communicative ability. Courses of the pre-gradual and post-gradual education of teachers oriented to environmental issues, especially environmental education and ethics, broaden knowledge of the teacher and provide information required for effective work in favour of changes in the thinking and behaviour of future generations.

Despite the bad financial situation, the sector of education participates actively in support of curricular and extracurricular environmental education – preparation of educational plans, literature, teachers. The priorities of the Ministry of Education should further include support of environmental education in facilities for extracurricular activities and leisure time (e.g. Ekojuventa), support of summer camps of the youth with environmental orientation, etc. Publishing houses, newspapers, journals, radios and TV stations also contribute to the increasing of environmental awareness.

**Extracurricular environmental education** plays also an important role in the system of the basic environmental education of population. This useful activity is being carried out by various associations and non-governmental organisations (**relation to the Chapter 27 of Agenda 21**) and associations of inhabitants oriented to the environment (e.g. Slovak Union of Nature and Landscape Protectors, Tree of Life, Slovak Scouting, etc.). Important support in edification and in implementation of small ecological projects is provided by various foundations. Also the activity of organisations under responsibility of the Ministry of the Environment and Ministry of Culture is important.

**Importance of environmental education** is underlined also by the fact that despite the enthusiasm of individuals and groups, despite the number of projects, relation of majority of the Slovak inhabitants to the nature and environment has not become an integral part of their moral awareness. Obligations of the man towards the nature are not perceived as a moral obligation. Damaging the environment does not evoke a feeling of guilt – in 1998 less than 4% of inhabitants considered environmental management to be a serious social problem. Therefore it is necessary to link the education to concrete daily activities. Implementation of the first **Conception of Environmental Education** (approved by the Resolution of the Government 846 of 25 November 1997) and **Environmental Academy** (prepared by the Ministry of the Environment) should contribute to this objective.

### **3.2.6 Political and social system**

#### **3.2.6.1 Development of democracy, promotion of fundamental human rights and freedoms**

Although at present the economic factors are considered to be the most important for development of the society and the political, social and other factors are subordinated, it is apparent that sustainability of further development of the society depends on **respecting the human rights and freedoms**, as they have been defined in the **Charter of Fundamental Rights and Freedoms** (the constitutional Act 23/1991) and in the **Constitution of the Slovak Republic** (the Act 460/1992).

The year 1989 brought an important change in the overall political and social situation, when the autocratic socialist system was replaced by the parliamentary democracy within the federation and since 1993 within the independent Slovak Republic.

Adoption of the Act 369/1990 on municipalities **significantly strengthened the self-government sector** through introduction of a dual system (existence of self-governments along with the central state administration). A great part of responsibilities has been so transferred to self-governmental bodies of cities and towns. Privatisation of the state property led to the strengthening of the private sector, in particular entrepreneurs and the restituted. The property structure of population with relatively well-balanced representation of the groups of the rich and the poor and with a strong middle class (80% of population) should correspond to this model. Generally, the middle class is a stabilising element in development of the society and therefor efficient support of small and medium entrepreneurs and employment conditions has a direct positive impact on sustainable development of the society.

Due to various reasons (mainly due to politically deformed development of democracy), however, this model has not been achieved even after ten years of building a democratic society. The middle class is relatively less numerous, there is a great number of socially dependent inhabitants and a large part of the national property has been distributed among a small group of the politically privileged individuals. Economy of the country is so considerably unbalanced. Another problem, mainly in the first half of 1990s, was insufficiently developed non-governmental organisations, which suffered from lack of long-term funding and therefor could not fulfil the expected social functions. An overall social activity of inhabitants also stagnates.

After adoption of the **Act on municipalities**, a model of society similar to models in USA and Canada started to be implemented. However, after the municipal elections lord-mayors and mayors as well as deputies of the self-governmental bodies without any previous professional preparation came to the extraordinarily important position in municipal authorities. On the contrary to other developed countries, in Slovakia candidates do not have to prove ability to work in the self-government. A flexible model of education of future employees in the self-governments, which would allow to effectively prepare future candidate within a relatively short time, is missing.

The self-governments of cities and towns have received a property with a value of several billions Slovak crowns through delimitation. According to the Act on municipalities they have to manage and enhance this property. Within the structure of municipal authorities so called business divisions have been established, which deal with monitoring of entrepreneurs and collection of payments, but they do not deal with enhancement of a municipal property and incomes for municipal budgets, which should be their main role. The self-governments run their businesses often with deficits, they use (and often even sell) the property to cover the loans. It has not been calculated yet what proportion of the property was sold out since 1990, it is however clear that if the management continued in this way, some municipalities would sell out all their property. Finally, the result could be the collapse of the dual model and return to the central state administration. If a big property was at that time in hands of a small group of inhabitants, it could lead to a considerable weakening and influencing of political stability of the country with increasing polarisation and growth of corruption.

### 3.2.6.2 External and internal safety of the state

The area of external and internal safety, human rights and criminality is one of the basic aspects of sustainable development and democracy. In 1990, when the democratic system started to be built, the conditions changed fundamentally, that also required to change the previous military and security system.

**The Army of the Slovak Republic** inherited the structure and equipment of the big, but obsolete Czechoslovak People Army. The main objective at present is to prepare for accession to the NATO, which constitutes a state doctrine in the area of external security of the country. However, there is an important fact that despite agreement of decisive political parties concerning accession to the NATO, majority of people according to recent public polls still do not agree with it. Expected financial requirements to re-build the army, which could be rather excessive for Slovakia, are the main arguments against accession to the NATO.

Armed forces and armaments industry are undesirable from the point of view of sustainable development because they do not lead to development of human resources, affect adversely on the environment and consume considerable financial resources, which could be used more effectively. At this level of the world development almost all states possess armies and cancellation of the army is today not realistic (it would require a political consensus at the global level). Partial solution is gradual building of a professional army and its reduction.

The **police** are the basic element of internal security in Slovakia. Also this institution underwent after 1990 important changes – along with the state police the municipal police units have been established. These polices are based on a model of “Community Based Policing (CBP)” which is characteristic by a balanced ratio between reactive and proactive police activities. Also the state police started to adopt CBP through two regional directorates.

The role of the police is to prevent and repress criminality, to hold the offenders and to regulate non-criminal behaviour. Real activity of the state police used to be, however, oriented only to one aspect – revealing the criminality. Financial resources were invested into the fight against the individual criminality and not into reduction of the latent criminality.

Previous development of criminality in the Central and Eastern European countries is identical to the development of criminality in the Northern America 30-50 years ago. Previous development and growth of criminality rate confirms absence of prevention of criminality. In conditions of the former regime so called positive school was used which preferred protection of the society or the social regime against protection of an individual (e.g. there were more severe punishments for robbery of the property in socialist ownership than for murder).

A so-called environmental school of criminology is being successfully applied in developed democratic states. It deals with a crime before its appearance, i.e. mainly prevention. **Prevention of criminality** has to be an integral part of the security philosophy. It is based on self-protection of individuals and organisations. It stresses activities taken before committing a crime. Prevention is defined as anticipation, recognition and estimation of a crime risk as well as initiation of activity oriented to its elimination or reduction.

In this relation an important negative fact is that, for instance, the municipal polices (which are defined as preventive units) do not have the subject of prevention of

criminality in the agenda for examination of professional ability. Such a situation is also in the police schools in Slovakia. The police mission has to be changed and this has to be manifested also in criteria for assessment of the police. If the police have to protect the human rights of the citizens, then punishing the criminal is not satisfaction for the citizen. The citizen does not want to be injured – that means preventing the criminality. The police in developed countries are assessed according to a criterion that is absence of criminality and not the number of resolved crimes.

The issue of reduction of criminality in particular depends on increasing of justice and on functionality of the **judicial system**. The internal security of the state is one of its basic functions conditioning sustainable development of Slovakia. Therefore it is necessary to record all judicial proceedings (as it is implemented in all developed countries). This will increase not only credibility but control of judges as well. Clerk of the Court should be an independent person and not an employee of the court, as is the case in Slovakia. If a citizen selects an attorney-at-law at the costs of the state he should be given an opportunity of a free choice on the basis of personal confidence. The activity of the judicial system has to be improved practically in all important areas.

### 3.2.6.3 Behaviour of citizens and their duties to the state

The whole 19<sup>th</sup> and 20<sup>th</sup> centuries in countries building a democracy were full of fight for autonomy of an individual (citizen) from the state and for unambiguous legal guarantees. Conception of human rights always works with rights of an individual in relation to the state. **Human rights** may be the only area without reciprocal fulfilment of duties to other subjects. The duties of an individual to the state and to the society are not defined unambiguously and sufficiently universally. This issue was being usually addressed in such a way that “human duties” are defined by the necessity to respect human rights and basic freedoms of others. The another definition was based on assumption that duties of a citizen are defined by the legal system of each state and for the citizen it is sufficient to respect these duties.

However, if we speak about democracy as a basic objective of sustainable development of the society, then there have to be some **basic standards of behaviour**, which are difficult to enforce legally (or they are not strictly defined), but long-term existence of the state or any other democratic form of organisation would be impossible if majority of the society members did not behave in accordance with them.

The fundamental requirements of the state and the society concerning behaviour of citizens can be summarised as follows:

**public manifestation of affiliation to the state** – can have various forms: common official culture, official language, patriotic manifestations, citizenship, etc., without these elements no community can exist for longer time;

**reasonable rate of solidarity and respect** among citizens – in a community people should care of each other, a tragic fate of one individual should be a challenge for others to provide assistance;

**compliance with legal system and laws of the state** – should be evident at least concerning the laws dealing with elementary order and security;

**paying taxes** – unpopular basic duty of citizens compensated by a number of advantages provided by the modern state;

**personal participation of citizens in elections** – is a manifestation of personal involvement and personal responsibility of citizens in public administration;

**personal participation in state defence** – in justified cases the citizens should be ready to defend their state;

**reasonable reproduction behaviour** – to maintain the culture, nation and state their members have to have children, which constitutes a form of repayment of a debt for their own existence, maintaining the line of life and finally the culture and organisation of their own community, while sufficient attention has to be paid to education of their own descent.

#### **3.2.6.4 Religions and beliefs, denominations and religious communities**

Various religions and beliefs, denominations and religious communities declare necessity to participate in the solving of problems of this world and declare their involvement in the Earth management. The **rate of incorporation and acceptance of religious principles and approaches** in the decision-making processes, justice and overall moral and behaviour of the society is an important indicator of their role in efforts to achieve sustainable development.

The man often needs and looks for a higher moral authority – in the Christian moral it is a God, whose commandments are binding for the Christians. A Christian is not allowed to infringe these commandments, because such an infringement is considered to be a sin. The society could benefit from compliance with the principles of religious moral and from their application.

The Slovak society needs **restoration of a real moral**. The prevailing part of inhabitants of Slovakia declare their affiliation to the tradition of Cyril and Methodius and the tradition of the Church is a condition of social, cultural and spiritual continuity of Slovakia. The Churches belong to the biggest owners of real-estate properties, they have a special position and importance in meeting the spiritual and social needs of the inhabitants. They can therefore significantly influence enforcement of principles of sustainable development. A special task from the point of view of sustainable development of the property of the Churches is constituted by **building skills and strengthening the quality of management** and practical care of movable and real-estate property in ownership of the Churches and use of this property to meet the spiritual, social and developmental needs of communities, settlements and regions. **Enhancing the knowledge** of parish priests and parish managers concerning the needs and forms of protection of cultural and natural heritage and opportunities of application of principles and criteria of sustainable development in religions and Churches.

### **3.3 SOCIAL CONDITIONS AND PERSPECTIVES**

#### **3.3.1 Classification of social conditions and perspectives**

The starting situation for achieving sustainable development in the Slovak Republic in the framework of **social conditions** is determined in particular by development and state in:

quality and length of life, population development and educational level of population, human health and health care, social problems, socio-pathological phenomena, social aid, police and justice.

The starting situation is affected by:

selected groups in the society (children and youth, women, the elderly,...), national minorities and ethnic groups.

### **3.3.2 Quality and length of life, population development and educational level of population**

#### **3.3.2.1 Quality of life and sustainable development**

The social aspect of sustainable development is determined by the fact that people are the real wealth of the society. Objective of sustainable development should be therefor **creation of such an environment which will allow people to live a long, healthy, valuable and creative life.**

Idea of sustainable development is based on assumption that local, regional communities and the whole society are interested in the effective use of human resources at present, but also in the near and far future, and therefor one of the basic developmental objectives should be improvement of quality of life.

**A sustainable society** should be sufficiently predictive, should flexibly respond to new situations and should be sufficiently aware (clever) not to threaten physical and social systems supporting its further existence. Such a society should create proper informational, social and institutional mechanisms to regulate demographic development and use of human capital. Sustainable development creates conditions for such a mutual configuration of demographic development, production and use of technologies, social and economic capital, which will ensure **quality of life** of all society members, adequately to their basic living needs.

Sustainable way of life allows growth. A sustainable society should be, however, interested first of all in qualitative development and not in physical expansion. It is necessary to tell difference between kinds and objectives of growth – if a society decides to support a certain kind of growth, and then it should be able to predict the consequences. A sustainable society should not conserve regional and social marginality which leads to poverty. A sustainable society should exclude stagnation and excessive unemployment and should create conditions for gradual adjustment of human activities and abilities to new conditions of a developed post-industrial society. Support of development of technologies and sciences should result in expansion of human creativity in various forms of activity.

Diversity is a basic aspect of sustainability not only in the nature and landscape but in the human society as well. A sustainable society therefor unambiguously supports and develops the cultural diversity and local and regional autonomy. Heading towards sustainable way of life presumes innovations in economic, social, political, cultural and spiritual areas. A society, oriented to sustainable development, should develop environmental science and create the culture on the basis of values compatible with principles of sustainable development, use quality and expert information and knowledge on limits to growth and orient itself to generally accepted

social objectives. The issue is **practical application of the whole system of principles and criteria of sustainable development and environmentalism** in daily life of the man and the society.

Relationship between the demographic trends and factors and sustainable development has a synergetic character (**Chapter 5 of Agenda 21** – Demographic dynamics and sustainability). Demographic trends and factors affect production and consumption patterns, lifestyle and long-term character of sustainable way of life. They influence use of soil, water, minerals, energy and other resources. Rapid and sometimes unregulated population growth causes subsequent environmental problems.

The economic and social transformation, which is being carried out in Slovakia, is manifested by changes of a number of indicators of the population development, which were results of previous way of life in the socialist society. The political, economic and social changes in the last decade considerably influenced the demographic indicators, which are now getting closer to the values in the Western European countries. During a short time, we registered relatively significant changes in indicators of those phenomena and processes, which are being affected by individual population behaviour (indicators of birth rate, fertility and marriage rate, divorce rate, migration). On the contrary, small changes appeared in the long-term indicators (e.g. life expectancy, death rate and health state of the population).

### 3.3.2.2 Population development

**The overall demographic potential** of the Slovak Republic is **5,393 thousands inhabitants** (1 January 1999). Since 1990, the population increased by 82 thousands inhabitants, which is annually 10.25 thousands inhabitants. The change of demographic behaviour of inhabitants is manifested by the average annual growth of inhabitants during individual decades – in 1961-1970 decade it was from 37.7 thousands to 40.4 thousands inhabitants, in 1971-1980 decade it was from 45.6 thousands to 46.5 thousands inhabitants, in 1981-1990 decade it was 31.5 thousands inhabitants and in 1991-2000 the average annual growth was 13.1 thousands inhabitants. Expressed relatively, it means that the average annual growth was falling from 9.6‰ in the 1970-1980 period to 1.9‰ in the last decade, while the total population growth is still decreasing (see Table 5)

*Table 5 Selected indicators of population development in Slovakia (1980-2000)*

Indicator	1980	1990	1991	1992	1993	1994	1996	1997	1998	1999	2000
Number of inhabitants (thousands)	4,996	5,311	5,296	5,314	5,336	5,356	5,379	5,388	5,393	5,399	5,402
Natural growth	44,521	25,370	23,951	21,217	20,549	14,984	8,887	6,987	4,426	3,821	2,360
Natural growth per 1000 inhabitants	8.9	4.8	4.6	4.0	3.9	2.8	1.7	1.3	0.8	0.7	0.4
Migratory growth	-3,129	-2,322	215	-2,939	1,751	4,768	2,255	1,731	1,306	1,454	1,436
Migratory growth per 1000 inhabitants	-0.6	0.5	6	-0.5	0.3	0.9	0.4	0.3	0.3	0.3	0.3
Total growth	41,392	23,048	24,166	18,278	22,300	19,752	11,142	8,718	5,732	5,275	3,890
Total growth per 1000 inhabitants	8.3	4.3	4.6	3.5	4.2	3.7	2.1	1.6	1.1	1.0	0.7



Sources: Statistical Office of the Slovak Republic

**Internal migration of inhabitants** is characterised by considerable decrease of migration streams to cities leading to slowing-down of urbanisation rate. Weakening of the migration activity of majority of the Slovak cities is partly caused by relative exploitation of demographic resources in several areas, but also by considerable slowing-down of large-scale housing construction during the recent period. This trend replaced a strong migration activity relating to the urbanisation, which used to typical for the socialist development. The migration of inhabitants can be documented by development of the number of inhabitants in individual size categories of municipalities (see Table 6). In the 1950-1999 period there was a considerable decrease of inhabitants in municipalities with less than 2000 inhabitants (while in 1950 these municipalities were inhabited by almost 56% of inhabitants of Slovakia, in 1999 there were only 30.3% of inhabitants in these municipalities). On the contrary, the share of inhabitants living in the cities with more than 10,000 inhabitants substantively increased (from 18% to 50%). These trends were very little distinct in the 1991-1998 period (the share of population living in small municipalities decreased only by 0.3% and the share of population living in cities with more than 10,000 inhabitants increased equally by 0.3%).

*Table 6 Size structure of municipalities of Slovakia – development of share of inhabitants (in %) in various size categories*

Size category of municipality	1950	1961	1970	1980	1991	1999
up to 200 inhabitants	1.3	0.8	0.6	0.6	0.8	0.9
200 – 499	12.0	7.9	6.7	5.0	5.4	5.2
500 – 999	20.3	17.4	15.4	11.4	10.5	10.1
1,000 – 1,999	22.3	21.8	20.0	16.1	14.0	14.1
2,000 – 4,999	17.9	22.3	20.3	16.6	13.2	13.5
5,000 – 9,999	8.2	9.2	8.6	7.5	6.6	6.7
10,000 – 19,999	6.5	7.0	7.0	10.9	8.7	7.9
20,000 – 49,999	4.1	5.9	11.4	11.7	15.9	16.7
50,000 – 99,999	1.8	1.9	3.2	8.4	12.1	12.1
100,000 and more inhabitants	5.6	5.8	6.8	11.7	12.8	12.8

From the point of view of **external migration** a modest migratory increase by 1,300-5,000 inhabitants annually (0.3-1.0 ‰) has been characteristic for Slovakia since 1993. The **age structure of inhabitants** (see Table 7) is being changed gradually, in particular in the last decade. The share of inhabitants in productive age is still growing (at present almost 62%), considerable changes can be, however, seen in decreasing share of inhabitants in the pre-productive (0-14 years) age (in 1970 there were 27.3% of the Slovak inhabitants in age of 0-14 years, while in 1999 only 19.8%). The share of inhabitants in post-productive age (more than 60 years for men and more than 55 years for women) was increased in this period only slightly from 16.4% to 17.9%, however more rapid growth can be expected. The **vitality index** was reduced from 166.46 in 1970 to 110.61 in 1999, that confirms the process of

ageing of the Slovak population, for which the **stagnating type of population** is characteristic.

The **share of women** in the total population is permanently bigger than the share of men, while it is still increasing (at present 51.35%, in 1970 less by 0.7%) which is caused by higher survival rate and decrease of birth rate.

The most apparent changes of the whole complex of demographic characteristics during the last decade were registered in development of the indicators of **natural reproduction**. After 1970, the mortality changed just slightly and is still relatively high (9.3 – 10.3 dead per 1,000 inhabitants). Birth rate value increased after 1970 to maximum (20.9 children born alive per 1,000 inhabitants in 1976) and then it started to decrease and this trend is going on till these days (10.4 in 1999). The values of natural population growth during last three decades dropped from 8.9‰ in 1980 to 0.7 ‰ in 1998.

*Table 7 Development of age structure of inhabitants in Slovakia and share of women*

	Pre-productive age	Productive age	Post-productive age	Vitality index	Senility index	Share of women
1970	27.3	56.3	16.4	166.46	60.07	50.65
1980	26.1	57.7	16.2	161.11	62.07	50.78
1991	24.9	57.4	17.6	141.48	70.68	51.22
1993	23.5	59.1	17.4	135.05	74.04	51.28
1994	22.9	59.6	17.5	130.85	76.42	51.29
1995	22.3	60.2	17.5	127.42	78.47	51.31
1996	21.7	60.7	17.6	123.29	81.11	51.32
1997	21.1	61.2	17.7	119.21	83.89	51.33
1998	20.4	61.8	17.8	114.61	87.25	51.35
1999	19.8	62.3	17.9	110.61	90.54	51.37

Source: Statistical Office of the Slovak Republic

Note: The vitality index is determined by the share of pre-productive element to post-productive element of population multiplied by 100. The lower the value of index is, the relatively older the monitored population is. The senility index is defined by inverted relationship – share of post-productive inhabitants to child component, higher value of the index expresses ageing of the monitored population.

Based on these data, it is possible to mention the **basic changes of population development of inhabitants in Slovakia**, which considerably influence its structure and spatial distribution. Slovakia with its demographic development is gradually getting to the **phase of the so-called second demographic transition**. In the Western and Northern European countries (where it has been present almost for three decades) this phase has been manifested through a number of processes. On our territory it began to be apparent at the end of 1980s and it was accelerated by the political, economic and social changes in 1990s. Worsened living conditions of young people for creation of families (financial unavailability of flats, increased living costs, worries from loss of job) and disinterest of the political elite in population development in Slovakia and in regions probably contributed to relatively considerable changes in the demographic behaviour. No surprise, that during 1990s the population development sharply worsened, there is decrease of will to marry and to found families. Transformation of demographic behaviour in new conditions

continues, the previous models of wedding rate, birth rate and fertility are being gradually abandoned.

Of the most important demographic trends on the territory of Slovakia there is apparent process of **demographic ageing** of the Slovak population (see Table 7), accompanied by the decrease of child component (decreasing birth rate) and by growing group of inhabitants in the post-productive age (while there is higher share of the post-productive groups of inhabitants in the Southern and Western part of Slovakia). The ageing process can have an adverse social impact, taking into account various manifestations in different ethnic groups. The high values of mortality in several groups of inhabitants are caused by a bad state of human health (extremely high values for men in the age of 45-54 years which are twice as high as the European average). There was a enormous decrease of the number of born children after 1989, accompanied by increasing number of the singles.

The **short life expectancy of the inhabitants** in Slovakia, together with significant difference between men and women (8 years against favour of men – see Table 8) is a very negative phenomenon. A difference between regions is also obvious (a less favourable situation in the Southern part of Slovakia). The lagging of Slovakia, when compared to the developed countries, is obvious – 4-9 years for men and 3-6 years for women. At the beginning of 1990s a slight improvement in life expectancy occurred (by 1.5-2 years), but in next years stagnation appears again.

*Table 8 Development in the selected demographic indicators (1970-1999)*

<b>Indicators</b>	<b>1970</b>	<b>1980</b>	<b>1990</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
Life expectancy – men	66.73	66.75	66.64	67.56	68.35	68.34	68.40	68.88	68.91	68.62	68.95
Life expectancy – women	72.92	74.25	75.44	76.22	76.6	76.48	76.33	76.81	76.73	76.71	77.03
Abortions per 1,000 women in fertile age	31.2	33.1	42.3	36.9	33.5	29.7	25.5	21.6	19.3	18.5	17.7
Marriages per 1,000 inhabitants	7.9	7.9	7.6	6.4	5.8	5.3	5.1	5.1	5.2	5.1	5.06
Divorces per 100 marriages	9.5	16.8	21.9	23.8	26.5	30.8	32.7	34.2	32.7	33.9	35.3

Source: Statistical Office of the Slovak Republic

Among positive demographic trends it is possible to mention **reduction of the number of abortions** (abortion rate fell under 5‰) and reduction of infant mortality and mortality of newly born children. The other developmental indicators are less favourable. The **number of new marriages and marriage rate** are still decreasing. The age of fiancés tying the marriage knot for the first time is growing for both sexes. There is still **growing number of divorces and divorce rate**. The process of **population reproduction** is slowing down – there is a long-term trend in decrease of the number of born children and fertility of women, despite increasing number of women in fertile age. The average age of mothers giving birth to the first child is growing, the share of living children born out of marriage continues to increase. From the demographic point of view the most serious problem seems to be the **bad state of human health** leading to very slow increase of life expectancy. Further development in this area will be a sensitive indicator of caring for the demographic potential of Slovakia (which is still relatively high, despite some adverse impacts), including the health care.

### 3.3.2.3 Educational level of inhabitants and its differentiation

Education and public awareness rising are complex processes, where individuals and society can apply their potential. The education is a basic pre-condition for support of sustainable development and for the increasing of human potential to solve the environmental, economic and socio-cultural developmental problems (**Chapter 36 of Agenda 21** – Promoting education, public awareness and training). The educational potential is important to achieve the environmental and ethic awareness, to seek values, to take positions, to create abilities and to regulate behaviour in various situations of life so that it is in accordance with sustainable way of life. Effectiveness of education from the point of view of sustainable development assumes orientation to awareness of the bio-physical, economic and socio-cultural environment.

Despite deformations of the educational system in the post-war decades and despite the lack of resources in the recent decade the **level of education** of the Slovak population is relatively high. The education index according to the *Human Development Report* (1999) was 0.91, which is on the level of Greece, Portugal, Slovenia, Hungary, the Czech Republic and corresponds to the third ten of all world countries.

The educational level of population is considerably differentiated spatially and ethnically. The biggest difference is between the educational level of the Gypsy population and the majority ethnic group and other minorities. For instance, the share of inhabitants with secondary education was 0.8% for Gypsies in 1991, while for Slovaks it was 18.1% and for Hungarians 14.9%. The bigger difference was in university level of education – 0.1% for Gypsies, 6.1% for Slovaks and 16.0% for Czechs.

Taking into account the indicated prevailing negative demographic trends on the Slovak territory, it is desirable for the state to regulate the demographic development through proper tools. Their objective should be minimising of the negative trends and support of the positive trends. However, a separate demographic policy in the Slovak Republic in practice does not exist, some partial aspects can be found in the social, health and regional policies.

*Table 9 Selected indicators of educational profile of the Slovak Republic*

Indicator	1993	1994	1995	1996	1997	1998	1999
Full secondary education (% of inhabitants in age over 17)	53.8	49.8	51.3	56.0	60.1	62.3	61.6
University education (% of inhabitants in age over 22)	12.9	9.1	11.5	10.9	13.6	13.3	14.5
Inscription rate at all schools (% of inhabitants in age 6-22)	75.7	72.3	72.3	72.3	72.6	73.6	73.8
Total expenses for education (% of GDP)	5.3	4.4	5.1	5.1	4.8	4.5	5.1

Source: Human Development Report, 1999.

### 3.3.3 Human health and health care

**Adverse human health of the Slovak population** is affected by unhealthy lifestyle, situation in the health sector, worsened quality of the environment in some regions, unemployment and inappropriate housing conditions of a part of population. The other factors affecting the health state of inhabitants include lower educational level, character of the economic development and insufficient integration of Gypsies.

The structure of morbidity of the Slovak inhabitants is not being changed fundamentally for a longer time. The most important groups of illnesses are chronic non-infectious illnesses, cardiovascular illnesses and cancer diseases. Three fourths of deaths are caused by **illnesses of the cardiovascular system** (54.7% in 1999) and by **malign tumours** (22.8%). These illnesses threaten also the younger generation and their share still grows. Together with external causes (injuries, intoxication, murders, suicides), respiratory diseases and diseases of the digestive tract they account for 95% of all deaths. **AIDS** incidence is also growing (0.44 AIDS diseases per 100,000 inhabitants in 1999).

The morbidity is to certain extent influenced by **smoking**. According to 1998 data 39% of men and 19% of women belonged to the category of regular smokers. Besides traditional risk factors the premature mortality is probably caused also by less explored risk factors, which strengthen it (chronic low receiving of protective factors from fruits and vegetables, bad psychic state of inhabitants). One of the main causes of short life span in Slovakia is probably the unhealthy lifestyle in particular of men and groups of inhabitants with low education.

An important role in the adverse development of the health situation of inhabitants of Slovakia was played by the **economic, psychosocial and demographic conditions**, in particular:

disadvantageous starting situation of the Slovak Republic in transformation to the market economy, which led to a high growth of unemployment,

insufficient educational level of population in rural areas,

very adverse health situation of the Gypsy minority (according to professional estimates the life expectancy of Gypsies is shorter by ten years when compared to the majority population),

traditionally high consumption of concentrated alcoholic drinks (diseases of the cardiovascular system, cancers, cirrhosis),

unusually strong political turbulence after 1989 connected to a high share of frustrated, hopeless and hostile persons (the psychic state of population is significantly affecting the health state, in particular as far as cardiovascular diseases and cancers are concerned).

The **area of alimentation** closely relates to the health state of population. Positive consequence of change of the socio-political relationships is apparent here. While in the socialist stage an inappropriate structure of nourishment was typical for the Slovak inhabitants (high share of animal fats, sugars and alcohol), the economic transformation and changes in price structure of food improved the composition of nourishment (sharp fall of consumption of butter and increase of use of vegetal oils, vegetables and fruits – mainly Southern fruits). Decrease of consumption of milk and milk products is an exemption. In the overall structure of alimentation it is necessary to increase consumption of fish, fruits, milk products and on the contrary to substantially reduce consumption of meat and alcoholic products.

The current **health policy** is a result of unclearness, inconsistency and disagreement of conceptions of the previous political representations in the health and social areas. The problems of the health state cannot be narrowed only to the area of funding. The level of health services to common citizens has been reduced and has become more expensive.

*Table 10 Selected indicators of morbidity and health care*

Indicators	1970	1980	1990	1992	1994	1996	1997	1998	1999
Deaths of illnesses of circulatory system (% of causes of death)	*	*	*	51.6	54.7	54.5	54.7	55.9	54.7
Death of malign tumours (% of causes of death)	*	*	*	19.9	20.9	21.7	21.7	23.0	22.8
AIDS (per 100,000 inhabitants)	*	*	*	0.13	0.17	0.20	0.35	0.35	0.44
Number of inhabitants per one doctor	463	308	264	281	290	320	301	286	283
Number of beds in hospitals per 1,000 inhabitants	9.8	10.8	11.9	12.3	11.7	11.5	11.4	11.3	11.2
Average percentage of inability to work	5.1	3.9	4.7	5.3	4.9	5.2	5.3	5.2	5.3
Paid sickness benefits (million SKK)	1,576	1,899	3,147	3,823	4,368	6,043	6,685	7,410	7,881
Total expenditures to health care (in million SKK)	*	*	*	*	*	1,318	1,270	1,375	1,420

Source: Statistical Office of the Slovak Republic

*Table 11 Selected indicators of alimentation – consumption of selected foodstuffs per capita for one year*

Indicator	1970	1980	1990	1992	1994	1996	1997	1998	1999
Meat and meat products together (kg)	60.3	75.8	84.0	69.3	63.9	65	66.1	65.9	64.8
Fish and fish products (kg)	*	*	4.4	4	4.1	4.1	4.5	4.6	4.2
Fats and oils together (kg)	*	*	25.3	24.0	23.3	23.9	24.3	24.0	23.9
Milk and milk products (kg)	188.7	205.1	219.8	188.2	160.9	157.4	157.1	157.8	156.6
Fresh vegetables (kg)	*	*	70.8	75	77.8	80.3	80.7	78.1	76.8
Fresh fruits (kg)	*	*	37.7	44.5	47	49.6	45.1	46.9	43.2
Sugar (kg)	34.4	33.5	41.9	36.6	34.6	33.8	34.9	35.0	30.1
Alcohol (litre per adult inhabitant)	13.9	15.6	14.9		11.5	11.7	12.0	11.4	11.4
Cigarettes (pieces per adult inhabitant)	2,193	2,580	2,329		1,881	1,872	2,193	1,951	1,987

Source: Statistical Office of the Slovak Republic

The **Conception of State Health Policy** has become a basic governmental document **in the area of the health care** (Resolution of the Government 72/1994). In 1995, the Government of the Slovak Republic adopted the **National Programme of Health Promotion** which defines 6 priorities – support of physical activities, healthy alimentation, support of non-smoking, primary prevention of drug addiction, parental education and prevention of AIDS/HIV, prevention of hypertension. In accordance with the WHO programme “*Health for Europe in the 21<sup>st</sup> Century*” the **National Programme “Health for All in the 21<sup>st</sup> Century”** was worked out and approved by the Government in November 1999. It relates to the previous activities, to the National Programme of Health Promotion and to the **Chapter 6 of Agenda 21 – Protecting and promoting human health**.

An extraordinarily important area is in Slovakia the under-appreciated and insufficiently applied primary prevention, personal involvement of inhabitants in the health care and education of inhabitants towards the healthy way of life. These are the activities which present the starting point to sustainable development of human resources and to really healthy population and which are already being applied in developed countries. For instance, the World Health Organisation (WHO) uses for assessment of the health state of population a new DALE indicator (Disability Adjusted Life Expectancy). Slovakia considerably lags behind the developed Western European countries (by 5-7 years for men and by 4-5 years for women) and behind the Czech Republic and Slovenia by 1-2 years.

### **3.3.4 Social problems, social aid and socio-pathological phenomena**

#### **3.3.4.1 Social problems**

The **social problems** constitute immediate consequences of the adverse socio-economic situation in the region or country, they reflect the overall complex development of the society. The most apparent social problems include unemployment and poverty (material need) and social dependence, requiring **social aid**. Based on empirical knowledge, as the most frequent socially undesirable phenomena the following ones are mentioned: adverse interpersonal relationships, working problems, unsolved housing problems, health problems or senility, financial problems and unsolved administrative problems.

#### **3.3.4.2 Unemployment**

The unemployment is a relevant indicator to identify the orientation of the country to sustainable development, in particular if it is assessed regularly and if it is assessed together with other socio-economic indicators. It is considered to be one of the main causes of poverty.

After 1990, the **unemployment** showed to be a new problem of the Slovak society (its development is introduced in the Table 12) and the economy, which significantly relates mainly to the obsolete industrial structure and insufficient development of progressive economic areas. After ten years of transformation there is the highest unemployment rate in Slovakia among the European countries. In the near future it will be a serious threat to the economic and social stability of the country. The unemployment can be considered to be largely structural (caused by inappropriate

structure of economy and not by economic recession), partially because **Slovakia missed the start of information society**, Internet, digital economy and electronic business, which together constitute a basis of the new economy. The EU countries at the Lisbon summit in March 2000 adopted a strategy for 2000-2010 which is based on gradual transition of the countries to the new economy and which includes also solution of unemployment problems through creation of job opportunities in a so called "cyber space" (mainly via Internet), while 20 million jobs should be created during this period. Since Slovakia at present has no basic strategy of information society development, Internet, digital economy, electronic business or strategy of transition to the new economy, creation of new job opportunities in progressive economic areas seems to be unrealistic.

*Table 12 Unemployment rate development in Slovakia (on annual basis)*

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Number of registered unemployed	39,603	301,951	260,274	368,095	371,481	333,291	329,749	347,753	428,209	535,211
Number of unemployed at disposal *								324,714	407,084	510,729
Unemployment rate (registered unemployed) in %	1.54	11.82	10.38	14.44	14.59	13.1	12.84	13.37	16.43	20.1
Unemployment rate (unemployed at disposal) in %*								12.48	15.62	19.18
Share of the working on number of inhabitants (in %)	46.3	40.6	40.9	39.7	39.4	40.0	41.4	40.9	40.8	38.7

Source: Statistical Office of the Slovak Republic

\* Indicator introduced since December 1997

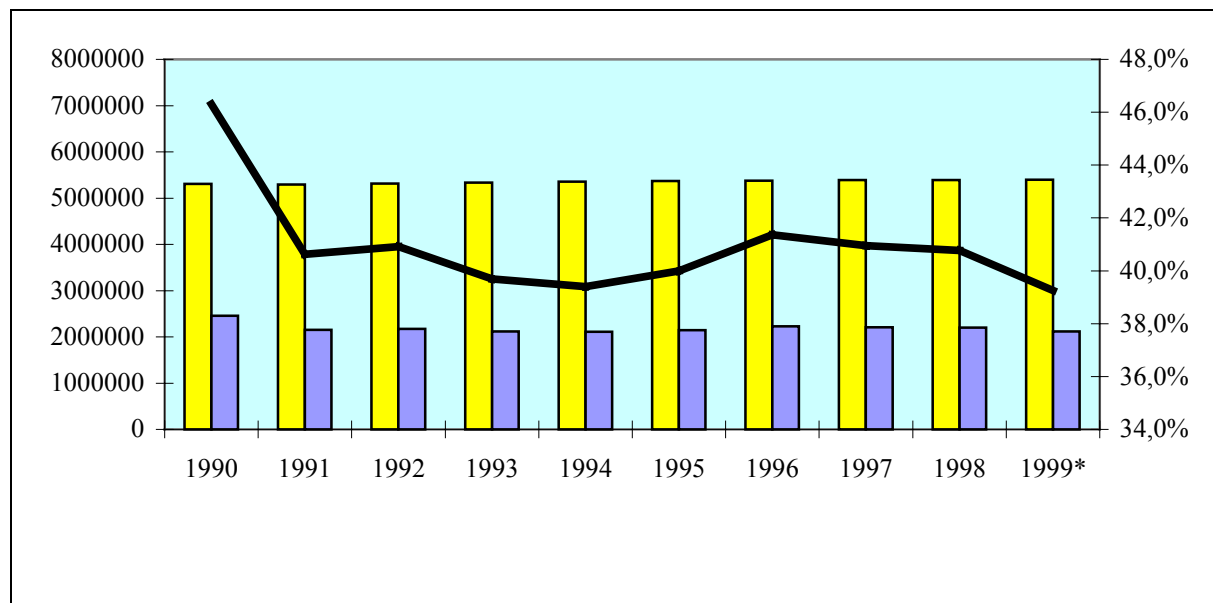
The high overall unemployment rate is only one dimension of this problem in Slovakia. Other problems are caused by **high regional differentiation of unemployment** (extremely high unemployment rate in rural areas, mainly in the Eastern and Southern parts of Slovakia), high share of the young unemployed seeking job on one available job place (almost 40 unemployed per one available job place), high and growing share of the permanently unemployed (over 50%), high share of the unemployed among the school-leavers and socially weaker groups of citizens (Gypsies account for ca 20% of the registered unemployed), low mobility of the working force (preferring ownership to houses and flats, insufficiently developed flat market), structural aspects of unemployment (inappropriate structure of economy – the working force does not shift from industrial areas to modern perspective areas) and education (low qualification of the working force mainly in rural areas). The fact that the percentage of the working on total number of inhabitants is decreasing (46% in 1990 and 39% in 1999) is worrying.

The adverse development of the unemployment and enlargement of regional disparities are alarming. Difference in the unemployment rate between the Western and Eastern parts of Slovakia can be explained as a consequence of influence of a



number of factors (relative geographical localisation with regard to economic growth centres, share of employment in individual sectors of the national economy, educational and ethnic structure of regional population, regional business activity and its diversification, infrastructure level).

Figure 1 Development of the number of the working in the Slovak economy



Legend:

Number of inhabitants



Total number of employees in national economy



Proportion of employees to number of inhabitants (%)



The causes of the unproportional growth of the unemployment in Slovakia, in particular after 1994 lie besides economy on non-motivational provision and amount of paid unemployment support and social aid. **Motivation to actively look for a job** is missing. Inefficient control and repressive system is leading to the **high level of illegal work** (it is estimated that 120,000-160,000 of 500,000 unemployed are employed illegally).

The 1999 **Conception of Employment Policy** as a governmental document introduces a conception of employment policy for the period till 2002 and a National Employment Plan. The National Plan is based mainly on the assumption of employment growth, business development, support to adjustment of enterprises and employees and strengthening of business opportunities. A handicap of the **National Employment Plan** is insufficient stress on development programmes, which would on one hand contribute to the restructuring of the inappropriate structure of economy and on the other hand they would support employment, including the peripheral regions.

### 3.3.4.3 Poverty

The **poverty** is a complex, multidimensional problem, when the lack of material and non-material resources, including financial resources, does not allow to ensure the

important (basic) living needs at reasonable level. Alleviation or elimination of poverty is connected to a high share in distribution of economic achievements and to development of the human potential (**the Chapter 3 of Agenda 21** – Combating poverty). One of the potential ways how to identify poverty on the basis of impartial indicators of the economic and social statistics is the aggregation of indicators of unemployment rate, social dependence and average salary. They directly or indirectly indicate the poverty.

Although the nominal incomes of the Slovak inhabitants, when compared to the developed countries of the world, are low (e.g. the average salary in Slovakia is ca 8-10 times lower than the salary in the EU countries), taking into account the still lower living costs, the difference in the real living level is not so big – despite that the living level in Slovakia is considerably lower. As distinct from inhabitants of developing countries (in particular Africa and the Southern Asia, partially also the Latin America), it is not possible to speak about the poverty of the majority of Slovakia's inhabitants and the average living level in Slovakia is substantially higher than in the majority of developing countries.

The former socialist regime was based on ability to limit the poverty of inhabitants to minimal level. It ensured a relatively acceptable living standard of an absolute majority of inhabitants. It is however a fact that after 1990, the **poverty in Slovakia is becoming obvious**, persistent and affects still more and more inhabitants. The consumer prices of goods and services grow and that reflects in living expenses of households. Increase of the number of inhabitants in social need was reflected in the share of socially dependent population, which at present accounts for almost 10%. In 1998, there were 9.56% of all households under the social minimum, i.e. 9.02% of persons. Under the level of the existential minimum there were 1.13% of all households. In 1998, the share of the socially dependent was 9.4%. The poor from the point of view of living conditions constitute 13.4% of all households, while the rich constitute 11.4% of households.

The most important adverse symptoms of the poverty are:

**economic** – falling living level of individuals and their households;

**general dissatisfaction** – lack of interest and crisis of trust to the state, society and other authorities;

**depressive** – powerlessness, resignation, passivity, disturbed self-assurance, crisis of identity, crisis of values;

**problems in interpersonal relationships**, troubles in marriages, families, isolation from friends;

**alcoholism and criminality** – as a consequence or also as a reason;

**psychosomatic problems** – in particular stress, hypertension, heart attacks, reduction of personal serenity, frustrations.

The level of poverty is spatially differentiated (considerably higher in rural areas and in the Eastern part of the country). Economic weakness of the Slovak rural areas, when compared to the industrialised parts, leads to appearance of a new poverty which relates to the high unemployment rate of certain social groups and to the high dependence on social incomes. New **regions of poverty** are appearing.

From the point of view of poverty, the threatened groups are constituted mainly by the elderly (pensioners), families with more children and incomplete families, the permanently unemployed. Threatened groups include also people with lower education and a large part of the Gypsy community.

The Slovak legal acts do not define the notion of poverty. This leads to absence of an official programme to support the poor groups of inhabitants. Elimination of poverty is being dealt with in the framework of the social care system. Solution of the poverty problem has to be oriented to social inclusion of the threatened groups into the normal way of life. The decisive role will be played perhaps by the state which should through its social policy prevent the fall of individuals, families and whole groups into the poverty and should help to improve their social situation. The system of social insurance and social aid payments should contribute to this – it is however questionable whether this system is sufficiently motivational at present. It is probable that a part of the poor and socially dependent misuse this system and do not have a real interest to solve their situation. Besides the state, various forms of aid to the socially weak and non-adaptive inhabitants is provided also by a number of non-governmental organisations which have an important position in the charitable activities.

#### **3.3.4.4 Socio-pathological phenomena**

The **socio-pathological phenomena** constitute a group of unhealthy, abnormal and generally undesirable phenomena which include first of all aggression, aggressive behaviour, hostility, violence, torturing, abuse and neglectfulness of children, violence at schools, criminality, prostitution, drug (non-alcoholic) addictions, suicides, divorces. They appear due to ignoring some of the material or non-material needs, which are of fundamental importance for the human existence.

The **criminality** is the most serious socio-pathological phenomenon in current Slovakia. In the course of recent five years it became one of the three most serious social problems. It is also a dominant problem of Slovakia from the point of view of the public opinion (66% of the interviewed considered the criminality to be the most important problem in 1998).

The criminality in Slovakia seems to be relatively low in the international context. The number of committed crimes per capita is considerably lower than in the Western European countries or in other Visegrad countries. This figure, however, is imprecise because the statistics of crimes in Slovakia does not include the committed infringements.

Until 1989, the criminality was under control of the repressive political system, but since 1990 there has been a considerable growth of criminality. 93,859 crimes were committed in Slovakia in 1998, which is twice as much as in 1989. The structure of crimes has also been changed – a considerable growth has been registered in crimes against property, while new forms of criminality are appearing (crimes relating to drugs, extortion, kidnapping, organised criminality). A dangerous phenomenon is mainly the growth of the organised international criminality, against which sufficiently efficient protective instruments still do not exist. After 1994, there was in Slovakia a rapid growth of damages caused by the criminality (SKK 5.187 billion in 1994 and SKK 7.129 billion in 1998).

The criminality is considerably concentrated in the urban areas (71 districts cities with less than a half of population accounted for 98% of the overall criminality, 94.4% of violent criminality and 98.6% of criminality against property). Despite that a certain positive trend can be registered in bigger cities in development of the criminality (slower growth or even decrease) that can relate to the preventive effect of the city polices. On the contrary, a growth of the criminality in rural districts of Slovakia is a negative trend during the recent period (1997-1998), which can lead in the future to

serious social consequences due to unpreparedness of these regions to combat the criminality.

The polarisation of the society in 1990s leads to growth of other socio-pathological phenomena. Expanding **prostitution** mainly in bigger cities is becoming a source of a number of antisocial, often criminal phenomena. **Drug addictions** grow. Specific problems of this socio-pathological phenomenon are rooted in relatively low “introducing” prices, unpreparedness to growth of the number of the drug-addicted, unprofessional prevention as well as in imperfections of legal instruments. The age of drug consumers still decreases. The National Programme to Combat Drugs (approved by the Government in 1995) tries to reduce the lagging in anti-drug activities.

The **alcoholism** is threateningly growing and is still the most important drug. The **divorce rate** can be included among the socio-pathological phenomena too. The Slovak Republic ranks among the European average, while the divorce rate values are slightly growing, in particular with regards to the number of new marriages (21.9 divorces per 100 marriages in 1990 and 33.9 divorces per 100 marriages in 1998).

Response of the society to the socio-pathological phenomena is still insufficient and relates to problems of the political and social system mentioned in the Chapter 2.6.

### **3.3.5 Position of selected groups in the society**

One of the basic pre-conditions to achieve sustainable development is a broad participation of the public in decision-making processes. The specific relations of development issues require new forms of participation. This includes necessity to involve individuals and groups into the processes affecting the working and living conditions of individual communities. Therefore the position of the major groups in the society is a very important indicator of level of its development.

The **youth and children** constitute that part of the society, which will in the future take part in decision-making processes at all levels (**the Chapter 25 of Agenda 21** – Children and youth in sustainable development). They constitute a basis of the future development of the society and therefore their numerousness, social, educational and health state is a very important indicator of the future development of the society.

In this relation it can be stated that the demographic development of the Slovak society is not favourable (the Chapter 3.2.2). The pre-productive component of population accounted in 1999 for 19.8% of the total population and its share is still decreasing in the recent decades (see Table 7). The share of the youth (age of 15-19) is also decreasing since 1994.

When compared to the previous socialist phase of development of the society, when the expressions of the independent youth culture used to be strongly suppressed, at present the trend of the cultural youth independence is promoted. In relation to big development of mass media and information technologies the youth sub-culture, including the specific lifestyle and fashion, specific values, new forms of work and partner communities, are developing in Slovakia. The youth is separating from the traditional environment (working, religious, relationships, organisations and groups of youth). Growing expectations from the life under the influence of the West are obvious. The youth faces the plurality of standards, validity of which is limited and social effect uncertain, which leads to problems of identity of the youth in the Slovak society. In behaviour of the youth this does not lead to effort to act responsibly, but to

seek and to question the certainties, based on which it is possible to act safely without necessity of permanent decision-making and without relating risks.

Taking into account little personal experience and easy vulnerability from external impacts, the children and the youth are the most vulnerable groups of the society. Moreover, those impacts, which are perceived as the most considerably perceived, are the biggest attraction and currently affect extraordinarily intensively (impacts of the consumer way of life of the Western, in particular American society transferred through mass media), and are in their substance in conflict with principles of sustainable development. Therefore it is very important to pay attention to education and proper orientation of the children and the youth. In this relation the primary role should be played by the **education in families**, which is unfortunately not fully met. The another component in education are **schools** which are various in terms of their quality.

The state has to play also an active role. The **State Care of the Youth** is determined by the **Principles of the State Youth Policy of the Slovak Republic** of January 1992, which is dealing with issues of protection of the rights and civic freedoms, care of family, education of children and youth and support before first job, creation of conditions for utilisation of free time, promoting participation in the cultural life, health protection, protection against negligence, demoralisation, etc.

Equal position and inclusion of **women** in various activities and management is a precondition for achievement of sustainable development (**the Chapter 24 of Agenda 21** – Global action for women towards sustainable and equitable development). The **Co-ordinating Committee for Women** was established as an advisory, initiative and co-ordinating body of the Government to promote interests and needs of women. **The main areas of actions for women are family, employment and public life.**

The **family** in Slovakia is oriented traditionally, it can be considered to be an extraordinary power in the Slovak society, mainly due to its internal solidarity, ability to live sparingly and to seek internal solution of problems. The family in the Slovak society is for a long time perceived as the highest value. The most important member of a typical Slovak family is a woman – wife and mother, who usually ensures the practical functioning of the family (care of children, shopping, cooking, cleaning, washing, etc.). Moreover, most of women have to comply with the model connecting the working and family obligation, which leads to increased requirements from women and worsens conditions for work in the public life, recreation and personal interests. **High employment rate of women** is typical for the Slovak Republic, which is caused by the need of a double income model of the family, but also by the social and cultural environment. The unemployment rate of women is still higher than the unemployment rate of men. The difference in wages of men and women range from 18% to 24% to the disinterest of women, working opportunities for women are complicated by their obligations in households. Disproportion in salaries is reflected in pension rates, which are lower in the case of women.

The **position of women in the public life** is considered to be an area where the discriminatory tendencies are the most obvious. Representation of women the public positions is considerably lower, which can be demonstrated by 14% share of woman deputies in the National Council (the Parliament), 4.4% share of woman Lord Mayors and 17.5% share in the positions of woman Mayors. In Slovakia this situation is not a result of a targeted discrimination, it is rather a consequence of the above mentioned facts.

On the contrary, the **health indicators** and **life span** are more favourable for women than for men. Mortality of women is lower, when compared to mortality of men, in all age categories in both relative and absolute indicators (in 1998 the gross death rate was 9.4‰ for women and 10.3‰ for men). The situation of women is more favourable also as regards the life expectancy – in 1998 this indicator was by 8.1 years better for women than for men (77.03 years).

**The elderly** are an important group of inhabitants, for whom it is necessary to define clear frameworks of reasonable living standard and protection. Maintaining the quality of life of an old person remains the criterion of the social and health policy in relation to the elderly. The share of the elderly in the society still grows which is an important fact in this relation. The number of inhabitants of Slovakia in pension age (55+ for women and 60+ for men) should grow from the current 17.8% (1998) up to 23.7% in 2015. In 1980, this figure was only 16.2%.

The **health state** is perceived as the most important indicator of quality of life of the elderly. At present it is not favourable – 9% of inhabitants over 60 years of age are seriously ill, 21% are seriously threatened (by organ decompensation or by failure of psychic adaptation) and 32% are chronically ill with ensured assistance.

The **employment of the elderly** has decreased during the recent decade (from 10% to 2%) and therefore it is obvious that they are dependent almost exclusively on pension payments. Although the nominal value of pension payments is still growing, it is apparent that the **real incomes of pensioners are decreasing** and still larger share of them are getting under the poverty level. The most important item in expenditures in pensioners' households are constituted by expenditures for food (34.9% in 1999) and expenditures for housing. Expenditures for health care are growing.

Based on empirical investigations it is possible to state that besides the health and financial problems it is the **monotonous and stereotypical model of life** connected with disrespect and indifference (mainly in the health care facilities and from the side of the youth), which causes the most grievous problems of the elderly.

Improvement of quality of life of the elderly, in particular in the above mentioned areas, is an important challenge of sustainable development of the whole society, calling for adequate attention of the state authorities. This issue belongs to the sectors of labour, social affairs and family.

The majority of population in Slovakia lives in **families**. The traditional model of the Slovak family is a model with more children, however, in accordance with the trends in the developed countries the number of family members is decreasing. The share of families is from the long-term point of view decreasing – there is a growing number of households created by lonely individuals (21.8% of households of individuals in 1991). There is also growing share of marriages with one child or without children and share of incomplete families.

There were **1.4 million family households** in Slovakia in 1991. The majority of them were complete family households (86.6%). Although in the course of 1980s the two-child model of the family was stabilised in Slovakia, at present the share of multi-child families is decreasing. The incomes of both mother and father are needed, taking into account the necessity to ensure financial needs of a family. The share of time spent out of the family is increasing (mainly at work, but in rural areas the self-assistance and food self-supply is widely utilised). The family fulfils its educational role insufficiently – the communication between children and parents and mutually spent time are being shortened. An important factor is also the television which often influences negatively depriving the family members of time, which they could spend

in a mutual communication. Each family member has his/her own interests and problems, about which they do not speak together. This “up-to-date” perception of the family leads to a substantive impoverishing of its main role – educational.

The 1996 **Conception of the State Family Policy** is determined by the principle that the families are responsible for creation of conditions for the family life and the state should provide its support through the system of measures and tools. These measures concern the legal protection of the family and its members, social and economic security of the family, education of the youth and children, preparation for marriage and parenthood, as well as protection of health of the family members.

### **3.3.6 National minorities and ethnic groups**

The representatives of national minorities and their communities are often very closely connected to concrete regions. The regions with minorities constitute an environment, which is traditionally inhabited by these people in the new history. During the development of many generations they acquired comprehensive knowledge of their physical environment, society and culture. By their specific development they contribute to the cultural diversity of the territory. The national minorities should fully and without obstacles enjoy the human rights and fundamental freedoms and fully participate in sustainable development of their country.

In 1999, Slovakia was inhabited by **14.4% of inhabitants who are representatives of national minorities**. The majority Slovak population constituted 85.6% of the country's inhabitants.

The inhabitants of the Hungarian ethnic are the most populous national minority – 10.5%. According the Register of movement of inhabitants the Gypsies represented 1.69% (1999). However, if we take into account the 1989 registration of the Gypsies and their demographic behaviour (e.g. the share of the Gypsies in natural population growth was more than one third in 1998), we can expect, that their share is rather higher – 6-8%. The Czechs, Moravians and Silesians represented 1.1% of the Slovak inhabitants, Russniaks 0.32% and Ukrainian 0.29%.

The **development of minority cultures** in conditions of the Slovak Republic is being carried out through the civic associations of 11 minority cultures, publishing periodical and non-periodical press (31 journals, including 6 Gypsy journals), state theatres (4 theatres), state museums oriented to minority issues, semi-professional groups, regional edification centres and programmes in radios and televisions in languages of the minority national groups. The representatives of the Hungarian and the Ukrainian national minorities have opportunity to be educated in their mother tongues. The network of minority schools include kindergarten, primary schools and in the case of the Hungarian minority also secondary schools and the University of the Constantine Philosopher in Nitra.

The **Hungarian national minority** has a specific position on the territory of the Slovak Republic, because in almost all of the Southern districts bordering with Hungary the citizens of the Hungarian ethnic group represent more than 25% of the inhabitants (in the districts of Dunajská Streda and Komárno even more than a half) and there are tens of municipalities where the Hungarians represent more than 80% of the inhabitants. This leads to corresponding political influence (at present the Party of the Hungarian Coalition is a Parliamentary and governmental party with preferences on the level corresponding to the share of the Hungarians in the country). It can be said that the rights of the Hungarian minority in the Slovak Republic correspond to the standard in developed countries.

The **Gypsies** are an ethnic community for various reasons creating a peripheral group of the society (cultural difference from other inhabitants, small adaptability, low level of education, etc.), which results in distancing of a considerable part of the majority population from the Gypsies. According to the 1991 census 83,988 inhabitants declared to belong to the Gypsy minority (1.6% of the total population). According to the official data the Gypsies are mostly concentrated in the districts of Spišská Nová Ves (9.43%), Kežmarok (8.71%), Gelnica (7.77%) and Levoča (6.18%). There is a striking spatial differentiation of the Gypsies between the Western and the Eastern parts of Slovakia, while the over-average share of the Gypsy population can be monitored from the East towards the West up to the districts of Krupina, Zvolen and Žiar nad Hronom. However, it is obvious that a substantially bigger part of Gypsies claimed in the census not to be Gypsies. According to the estimates, the real number of Gypsies in Slovakia is 320,000 to 500,000. This huge difference complicates efforts to analyse and to solve the problems of co-existence of the majority and the Gypsy communities. In a number of districts of the Eastern and Southern Slovakia, there is 20% share of Gypsies in the whole number of inhabitants.

591 Gypsy ghettos were registered at the end of 1998 with the total number of 124,031 inhabitants (22,732 families in 13,882 houses). On the average one house was inhabited by 8.9 inhabitants. Of the total number, there were 48,861 children of the age below 15 years and 75,170 adults. In the Gypsy community the children represent as much as 43.3% and on the contrary, the post-productive population represents only 7%. The adverse socio-political situation in majority of the Gypsy communities is a result of complex problems (bad health state, low level of education, low level of health and social awareness, low housing standard, personal hygiene, municipal hygiene, deteriorated environment around the settlements, insufficient drinking water supply, bad alimentation, smoking, high consumption of alcohol).

Disappearance of the traditional forms of cohabitation during the socialism and growing social differentiation between the Gypsy and non-Gypsy inhabitants led to the worsening of mutual relationships. Increasing the social disparities in individual regions is partially perceived as an ethnic problem and leads to the tendency to form "Gypsy regions" in the Eastern part of Slovakia.

The Gypsies used to be an object of social experiments made by the state, which however were not absolutely efficient. It is obvious that the plans to gradually assimilate the Gypsies in the "white" population without solution of real problems of their lagging do not have a chance of success in the substantive majority of the Gypsy population. It is therefore important to pay attention to comprehensiveness of solution of the social policy, to improvement of housing culture, application of progressive methods in education, improvement of life quality (utilisation of traditional culture to support the positive ethnic awareness, utilisation of active forms to adopt new forms of lifestyle and improvement of hygiene, role of the Churches in the area of humanisation).

Disunity and political fragmentation is a specification of the Gypsy community, which complicates the co-operation. According to data of the Ministry of Interior (as of 1 March 2000), there were 114 civic associations and 15 political parties of the Gypsy minority. In November 1997, the Government of the Slovak Republic adopted the **Conception plans of the Government to solve problems of the Gypsies in the current socio-economic conditions**. The conception plans are oriented to re-assessment of the 1991 Principles of the Governmental Policy in Relation to Gypsies. The document contains an analysis of situation of the Gypsies in Slovakia and analysis of the Governmental policy relating to Gypsies, plans in the areas of



education, culture, employment, housing, social aid, health state and prevention of anti-social activity.

### 3.3.7 Value orientation and consumption patterns

Social engineering, liquidation of private business and collectivisation of agriculture during the socialism led to developmental discontinuation and brought changes in culture and in the value system of the society. The change in the socio-political regime was a rapid transformation to different conditions, which was further complicated by a complex and contradictory development of the world community. The 1990s years are therefor in Slovakia a **period of value chaos**, influencing of various mutually contradictory systems and developmental tendencies. Fear of freedom and responsibility appears in the society after disappearance of relatively stable totalitarian system. In daily life it is a fear of poverty, unemployment and future (generally the fear of change).

These extensive socio-political changes also lead gradually to **changes in value orientation**. Values like diligence, discipline, responsibility, modesty are stepping back, leaving the space for values like emancipation, equal chances, autonomy, hedonism, self-realisation, which are of still greater importance. **Mutual understanding is substantially disappearing** as a value (only one fourth of inhabitants are willing to apply it in education of their children). **Importance of so-called post-materialistic values**, like greater influence (of citizens) on governmental decisions, protection of freedom of thought, but also safety and order, considerably grows. These changes do not mean appearance of new values, but a change in preferring values, important growth of some values and decrease of others. At the same time, the differentiation in the area of preferring values and standards grows, depending on affiliation to a certain social group. There is also growth of number of marginal or quantitatively unimportant groups with specific or extreme values and standards.

**The value orientation** of the majority population of Slovakia together with cultural patterns and absence of the environment as a real value do not create favourable conditions for implementation of principles of sustainable development. Groups of inhabitants with the post-materialistic values are at present on the periphery of the society.

The most important value orientations supporting sustainable development, which should be adopted by the majority of the population, include first of all **promotion of qualitative development** instead of quantitative growth, **democracy and participation, development of human rights and freedoms** balanced by personal responsibility, mutual **tolerance**, aware **modesty, prevention and precaution, perspective thinking and taking into account the needs of future generations, solidarity** with other people and with all living organisms, **protection of the nature and the environment**.

The permanently **increasing consumption**, which is a typical feature of the materialistic and industrial society, seems to be unsustainable from the point of view of further development of the global community. Problems connected to increasing consumption point out at the need to specifically deal with the effective use of resources together with minimising of their consumption and reduction of environmental pollution (**the Chapter 4 of Agenda 21** – Changing consumption patterns). Since the first half of the 20<sup>th</sup> century, the traditional **consumption patterns**, based on modesty and characteristic for the majority of the Slovak society,

are disappearing. Permanently increasing consumption in several areas shows to be unsustainable for further development – sooner or later it results in social and environmental problems. Besides some positive aspects for a certain group of the society, the increasing consumption also brings negative effects in the form of deteriorating environment and health as well as in the form of growing poverty of other social groups, which leads to the social imbalance.

One of the most visible expressions of the adverse impacts of targeted influence of large producers on increasing consumption of inhabitants, which leads to **consumer way of life**, is also development in trade and services. Big companies building supermarkets and hypermarkets are entering the trade network in larger cities of Slovakia. It is a natural development of the market economy and trade globalisation, which is present practically in all developed countries. This prevailing trend, although accepted by a large group of the society positively because of relative advantages (in particular lower prices), is not in accordance with the philosophy of sustainable development, as it weakens the network of small retailers and producers, which is a stabilising element in the area of services, production and trade, including employment and quality of settlements.

The foreign investors are advantaged disproportionately – the domestic investors (including the inhabitants themselves) and the national business environment should be prioritised in the process of orientation to sustainable development. Abroad (e.g. in the United Kingdom) small retailers and specialised shops start to be supported in cities and towns so that they create a better availability of goods and services in settlements (and better quality of life in these settlements), which will not be concentrated in large trade centres.

Current Slovakia is undergoing a process of growing differences between consumption levels of different social groups and growing differences between sustainable and unsustainable consumption. Specific consumption of materials and energy for a unit of real gross domestic product is high, when compared to the economically developed European countries (although decreased since 1990). It is also obvious that the inhabitants of Slovakia consume excessive amounts of food (in particular meat, fats and cereals – see Table 11). One of the pre-conditions of sustainable development is dealing with production and consumption of goods and services. Alimentation, households, recreation and free time and personal transport belong to the most important areas of final consumption.

**Consumption in households** (meeting requirements connected to up-to-date housing) is necessary to be regulated towards energy efficiency, to reduce consumption of resources and production of wastes. Big potential is in savings in the areas of lighting, insulation, heating, use of quality construction materials, consumption of water.

### 3.3.8 Human Development Index

The complex (aggregated) socio-economic indicators of sustainable development include the **human development index** (HDI). The basic idea is to express the achieved level of human development with utilisation of one index, and to allow comparison on the international level. The human development index consists of **three partial indicators – life expectancy** (expected length of life at birth), **achieved education** (combination of literacy – two thirds of weight – and combined rate of inscription at primary and secondary schools and universities – one third of

weight) and **living standard** (real gross domestic product per capita in USD calculated through purchase power parity).

If we take into account the recent classification of the human development index (1999), then the **high level of human development** (0.801 – 1.0) was achieved by 45 countries, including **Slovakia at the 42<sup>nd</sup> position**. This value is comparable to other V4 countries. Of the neighbouring countries, the higher human development index is being achieved by Austria (0.901 – the 16<sup>th</sup> position), on the contrary, lower level of the index is in Ukraine.

**Regional differences** in human development are a natural consequence of differentiated natural, demographic, economic, socio-cultural and political conditions in various parts of the country. Based on the tendencies in development of the partial indicators, we can expect in the near future a transitional decrease of the human development index, which can lead to worsening of the international position of Slovakia.

### **3.4 ECONOMIC CONDITIONS AND PERSPECTIVES**

#### **3.4.1 Classification of economic conditions and perspectives**

The starting situation for achieving sustainable development in the Slovak Republic in the framework of **economic conditions** is determined in particular by development and state of:

- gross domestic product,
- inflation,
- foreign indebtedness,
- foreign trade and balance of payment,
- foreign investments,
- structure of economy, export and import,
- main sectors of economy
  - agriculture,
  - forestry,
  - water management,
  - industry,
  - extraction of mineral resources,
  - energy,
  - building industry,
  - transport,
  - tourism,
  - information technologies (quaternary sector),
- economic instruments
  - fiscal (budgetary) policy,

monetary policy,  
financial markets,  
state funds.

### 3.4.2 Slovak economy and gross domestic product

Slovakia at the beginning of the 21<sup>st</sup> century can be characterised as a **middle-developed industrial country with high-developed economy**. The current structure, profile and efficiency of the economy are result of the long-term development, which was influenced by internal and external factors.

Before 1918, Slovakia belonged to agrarian countries with partially developed industrial sector. After 1918, the Slovak economy was a part of the Czechoslovak economy which ranked among the 20 most developed economies in the world. After 1945, Czechoslovakia still belonged to the group of 30-35 most developed countries of the world, however, efficiency and competitiveness of the economy gradually decreased. Due to artificial isolation and non-market system of management of economy the lagging in technologies and efficiency was growing. Failure to catch the start of modern information technologies and inability of the centrally planned economy to get to the trajectory of transformation towards the post-industrial forms and structures of economy led to gradual decline of the Czechoslovak economy. The economy used to be centrally planned and its structure and profile were to a considerable extent formed on the basis of the decisions of the central bodies with regard to interests of the Comecon block. After change of the political regime in 1989 the transformation to a market economy began. The 1989 year brought for Slovakia and for other Central European countries a unique historic and unrepeatable chance to rank among the developed countries of the world (e.g. as regards economy, to use advantages of the market mechanism, to achieve the open economy, to ensure access to new knowledge and technologies, to increase competitiveness of the economic production, to gain new markets and to gradually increase the living standard of the inhabitants). There was also favourable international situation – the prospect of accession of Slovakia to the European Union should have been an impulse for implementation of a modern political system, utilisation of democracy and market mechanisms in the process of renewal of the Slovak economy and its components and for regulation of the market forces in favour of the Slovak citizens. The chance for economic development was, however, utilised by various countries of the Soviet block in various ways (in this regard Slovakia belongs to middle successful countries).

Small territory, number of inhabitants and overall economic power of Slovakia are reflected mainly in total **gross domestic product (GDP)** – in 1998 GDP was USD 19.9 billion. According to this figure Slovakia was at the 66<sup>th</sup> position in the world and represented 0.07% of the world economic product.

According to the methodology of the World Bank, Slovakia ranks among the countries with higher medium incomes (together with other V4 countries). Comparison with developed countries is in the Table 13. The data show that the position of Slovakia in the world economy measured as **gross domestic product per capita (GDP per capita)** is not very favourable at present (the 77<sup>th</sup> position in the world). The position expressed as **gross national product per capita according to purchase power parity (GNP/PPP)** is only slightly better – the 65<sup>th</sup> position in the world.

Table 13 Gross national product in selected countries (1998)

Country	GNP per capita		GNP/PPP	
	USD	Ranking	USD	Ranking
Slovakia	3,700	77	9,624	65
Czech Republic	5,150	65	12,197	52
Austria	26,830	12	23,145	15
Luxembourg	45,100	1	36,703	1
Norway	34,310	4	26,196	7
Japan	32,350	6	23,592	14
USA	29,240	10	29,240	4
Italy	20,090	25	20,365	25

Source: World Development Indicators, 2000

Development of efficiency of the Slovak economy in the recent decade measured as **gross domestic product per capita** shows a stagnation of the economy with negative influences of changes in both external and internal conditions. The decisive reasons were turbulent conditions in the world economy and unmanaged economic reform after 1990. From the long-term point of view, development of GDP per capita before 1990 shows a moderate growth, however, after 1990 there is a negative development. Gradually accelerating lag behind the developed economies of the world can be assessed in two main phases. Sharp decrease of GDP is typical for the 1990-1994 period and slow growth after 1994, which is however accompanied by permanent lagging behind the developed countries.

Based on the data in the Table 14, an increasing difference between the efficiencies of the Slovak economy and the developed countries is obvious. While the efficiency of economy in these countries increased in the 1985-1997 period by 10%-35%, in Slovakia it remained practically without changes (according to the data of the Statistical Office of the Slovak Republic the GDP per capita increased in the 1989-1999 period by 2.4% in comparable prices).

Table 14 Gross domestic product in selected countries

Country	Development of GDP per capita (USD)			
	1985	1990	1997	1997/1985 Index
Slovakia	3,436	3,622	3,432	0.999
Czech Republic	3,411	3,680	3,329	0.976
Austria	15,028	17,201	18,594	1.237
Italy	12,637	14,595	15,548	1.230
USA	18,000	19,652	21,541	1.197
Sweden	18,346	20,018	20,309	1.107
Japan	18,691	22,928	25,084	1.342
Norway	20,634	21,975	27,620	1.339

Source: Human Development Report, 1999

According to the **indicators of the economic competitiveness** (published annually within the Report on global competitiveness), Slovakia was in 1999 at the 45<sup>th</sup> position in the world (the Czech Republic at the 39<sup>th</sup> position), while in 1998 it was at the 48<sup>th</sup> position (the Czech Republic at the 35<sup>th</sup> position) and in 1998 at the 38<sup>th</sup> position (the Czech Republic at the 31<sup>st</sup> position). The first positions are occupied by Singapore, USA, Hong Kong and Taiwan.

According to the **index of microeconomic competitiveness**, Slovakia was in 1999 at the 48<sup>th</sup> position (the Czech Republic at the 41<sup>st</sup> position), while in 1998 it was at the 36<sup>th</sup> position in the world (the Czech Republic at the 30<sup>th</sup> position). The first three positions according to this index are occupied by USA, Finland and the Netherlands.

The **projection of growth of GDP of individual economies** for 2000-2008 ranks Slovakia at the 48<sup>th</sup> position with expected 2.08% growth, while the Czech Republic is at the 46<sup>th</sup> position with expected 2.20% growth. The first positions are occupied by Singapore (5.02% growth), Taiwan (4.29%), Malaysia (4.19%), Hong Kong (4.13%) and USA (4.07%).

Although certain partial successes in the economic transformation have been achieved in the Slovak economy in the recent decade, the above mentioned facts point out at increasing lagging of the Slovak economy behind the developed countries of the world in the main macroeconomic indicators.

At present Slovakia is ranked among the transforming post-communist countries of the Central and Eastern Europe. The **economic reform** (transformation) **oriented to transition** from the centrally planned economy **to the market economy** of a standard type started after the change of political regime in Czechoslovakia 1990. The reform was adopted in the form of systematic measures, which were to transform the mechanisms of management and organisation of the economy, ensure the macroeconomic stability and gradually reduce lagging of the Czechoslovak economy of that time behind the economies of the developed countries of the world. The economic reform was designed on the basis of the monetary economic theory and contained a sequentiality of steps, which included price liberalisation, extensive privatisation, macroeconomic restrictive policy and de-monopolisation. This sequentiality of steps was named a shocking therapy in order to express the intention to rapidly revive a standard functioning of the economy typical for the economically developed countries.

The economic reform in former Czechoslovakia was complicated by the split of the country when the Governments of new independent states tried to incorporate the national specific features. A **sharp decrease of economic efficiency** was characteristic for the first phase of the economic reform in 1990-1993 (decrease of GDP, growth of inflation and unemployment). In 1994, economies of the both new countries were stabilised, GDP began to grow, inflation got under control and unemployment was also stabilised. In 1997, however, due to the economic policy of the Government, the components of economic imbalance appeared again resulting in the economic crisis and later on in the social and political crisis. The main economic objective of the Slovak Republic at present is elimination of adverse consequences of the economic crisis, in particular renewal of the macroeconomic balance.

After ten years of application of the economic reform in Slovakia, the **main objective** (increase of efficiency of the Slovak economy which should have been supported by transition to the market mechanism and creation of a market environment as basic pre-conditions for good functioning of the economy) **was achieved only partially**. It is necessary to mention that the economic reform similarly failed in almost all Central and Eastern European countries. Reason of this failure was a narrowed interpretation

of the reform – its understanding mainly as a tool for achievement of a macroeconomic balance, abstracting from civilisation trends and ongoing civilisation transformation, non-inclusion of the need of transition to modern information technologies in backgrounds of its designing and also insufficient building of necessary institutions for the market economy. The other reasons include also **absence of a comprehensive long-term economic and social strategies**, insufficient application of developmental programmes and absence of programmes oriented to support of development of the information society. **An accompanying negative phenomenon of development of the Slovak economy** is excessive influence of lobbying groups resulting in enforcement of group interests, which is also an accompanying phenomenon of absence of economic development strategy. According to macroeconomic indicators, keeping inflation rate in acceptable limits and gradual modest economic growth can be considered to be **positive results of the reform**. On the contrary, high unemployment rate, high foreign indebtedness and adverse monetary development (e.g. the rate of the Slovak crown to USD) can be considered to be negative results.

The economic development of the Slovak Republic during the 1996-1999 as a whole can be characterised as unbalanced and in the main economic indicators mostly as negative – decreasing growth of GDP, increasing inflation rate and unemployment, overdraft of the current account. When compared to other CEFTA countries, Slovakia is lagging behind the indicators of Slovenia, Hungary, Poland and the Czech Republic.

The GDP development in the 1990-2000 points out at **beginning of certain growth and development tendencies** of the Slovak economy since 1994. In 1999, according to created GDP, the level of efficiency of the Slovak economy was roughly at the level as it had been before start of the reforms in 1989. It is, however, necessary to say that during this period GDPs in developed countries considerably increased (see the previous Chapter), which led to growing lag of the Slovak economy behind the developed economies of the world. However, stoppage of the decline trend of GDP has to be assessed positively. Development of GDP structure, in particular development of the internal structure of the secondary and tertiary sectors, can be assessed negatively. In the Slovak Republic's economy the sectors of information economy, digital economy and electronic business, which are of growing importance in the developed countries, have not been sufficiently profiled.

*Table 15 Development of GDP indicators in the Slovak Republic (1990-1999)*

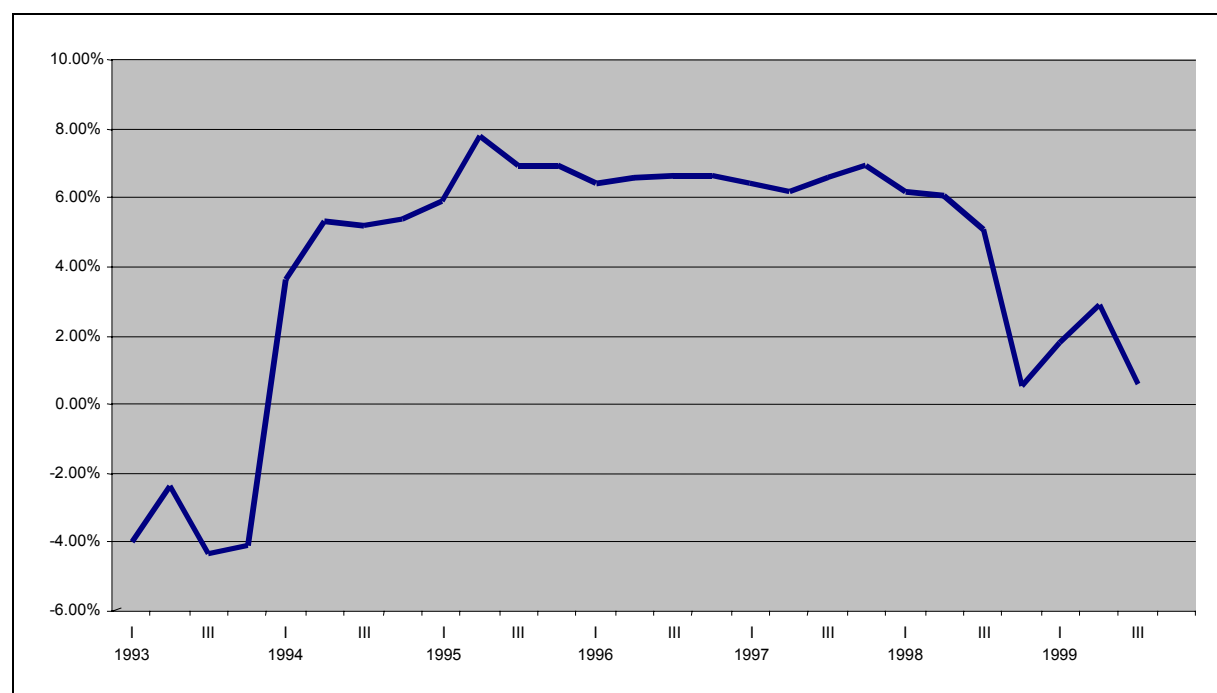
Indicator	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
GDP in current prices (SKK billion)	278.0	319.7	332.3	369.1	446.2	546	606.1	686.1	750.8	815.3
GDP in constant 1995 prices (SKK billion)	599.2	511.9	478.5	460.8	511.6	546.0	579.9	615.9	641.1	653.3
GDP per capita in current prices (SKK)	52,347	60,368	62,531	69,166	83,442	101,796	112,778	127,452	139,272	151,112
GDP per capita in constant prices										

(SKK)	112,8 29	96,66 0	90,04 3	86,34 9	95,67 2	101,7 96	107,9 13	114,4 11	118,92 3	121,08 6
GDP growth index (1989 year = 100)	97.5	83.3	77.9	75.0	78.7	84.1	89.7	95.5	99.7	102.4

Source: Statistical Office of the Slovak Republic

GDP development in Slovakia in the 1990-2000 period was accompanied by chronic **perturbations of macroeconomic balance**. A significant economic decline was characteristic for the beginning of 1990s, the growth trajectory was connected to significant inter-annual growth of export of goods and services, which compensated further decrease of the domestic demand. A relatively positive economic development continued also in the next period, however, from the demand side it was affected in very various ways. The year 1995 was the first year with a positive increase in all components of domestic demand, but the increase in export of goods and services started to slow down (due to these facts the balance of export and import of goods and services achieved a considerably lower surplus than in 1994). In the 1996-1998 the overdrafts of net export and import were achieved (more than 10% of GDP level), while due to growth of domestic demand a high level of GDP growth was maintained.

Figure 2 GDP development in the Slovak Republic (1993-1999)



The lasting **low competitiveness** of the Slovak producers was quite obvious in 1996, when the net export achieved a considerably negative value accompanied by **record growth of domestic demand**. The growth of GDP in 1998 was one of the highest ones in the countries in transition and its real value, however, still achieved only 95% of the 1989 value. Positive contribution was registered in foreign demand (though its balance was still negative), on the contrary, the dynamics of domestic demand was considerably decreased. In 1998, the economic growth was almost exclusively caused by domestic demand, the negative value of net export was



replicated at the level similar to the previous year. At the same time, the growth of economy continued (GDP growth by 4.4%). The decisive part of investments in particular in the 1996-1998 period were governmental investments in extensive projects of construction and development of infrastructure with a long return period, which are not aimed at export-oriented productions. The investment growth was not creating conditions for improvement of export efficiency of the economy and sustainable economic growth. The change of orientation of the economic policy together with accumulated economic problems led to considerable slow-down of GDP growth in 1999, which was caused by restrictions in the domestic demand. Growth of export of goods and services was acting against the decrease of growth speed.

In relation to relatively remarkable growth of the Slovak economy in the 1994-1998 period, it is possible to state that the **growth exceeded real possibilities**. It led to considerable „overheating“ of the Slovak economy and to considerable growth of the foreign indebtedness, which the current Government tried to solve by adopting stabilising restrictive measures in 1999. Effects of these measures were manifested in the significant reduction of the economic imbalance, which, on the other hand, caused decrease of the GDP growth dynamics in 1999, when compared to previous years.

Achievement of the original level of GDP creation in 1999 in comparison to 1989 is at present of diametrically different quality – the **major part of GDP (ca 85%) is being produced by private sector subjects**, while during the transformation the share of services in GDP increased and the share of industry and agriculture decreased. The trend of growth of the share of the tertiary sector is, on one hand, in accordance with the long-term tendency in developed countries, on the other hand, it is necessary to stress that the sector structure of GDP creation in Slovakia is far from the GDP structure in the developed countries. In the developed countries the information sector, playing the most important role in GDP creation, has been separated from the service sector.

### 3.4.3 Inflation

The **development of inflation** in the Slovak Republic after 1990 is relatively positive – after the initial problems mainly in 1991-1993 the inflation is **one of the least problematic areas of development of the Slovak economy**. The inflation as a general growth of prices is perceived as a negative phenomenon, because it lowers real value of monetary unit. From this point of view, years 1991 and 1993, when the average annual inflation rate (measured as a change of consumer price index) achieved 61.2% and 23.2% respectively, were the worst ones for the Slovak economy. In 1994, the inflation considerably dropped and the unstable price level from the previous period settled.

*Table 16* Development of inflation (in %)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Average annual inflation rate	10.4	61.2	10.0	23.2	13.4	9.9	5.8	6.1	6.7	10.6
Inter-annual inflation rate (of 31.12.)		58.3	9.1	25.1	11.7	7.2	5.4	6.4	5.6	14.2

Source: Statistical Office of the Slovak Republic, National Bank of Slovakia

In 1995, the inflation for the first time fell under the 10% level. This trend continued till 1999, first of all due to the **restrictive monetary policy of the National Bank of Slovakia** and due to postponed de-regulation of prices of some important items from the consumer basket. In 1996, the inflation rate achieved the lowest value from 1990 and started to slightly grow. The year 1996 was also a year when a number of phenomena of macroeconomic imbalance were strengthened. In the 1997-1998 period, the inflation rate was still relatively low, when compared to other economies in transition, but this was due to a more and more restrictive monetary policy and postponing the full de-regulation of prices regulated by the state.

When compared to other economies in transition, the **Slovak inflation rate is relatively low**. In the 1993-1998 period, the average inter-annual inflation rate in Slovakia was 10.6%, in the Czech Republic 11.3%, in Hungary 20.9% and in Poland 23.6%. Comparing to values in the European Union, the inflation in Slovakia is higher 3-4 times. The National Bank of Slovakia managed to maintain the stability of currency only at costs of long-term freezing of liquidity and considerable growth of interest rates. This led to a worsened access to resources both in enterprise area and in funding of the state budget. Development of average annual inflation, expressed in the form of average annual indexes of consumer prices in 1994-1998, can be assessed positively when, mainly due to the restrictive policy of the National Bank of Slovakia and ongoing regulation of prices of energy, heat, gas, transport and rental, the inflation was gradually reduced to the level of 6%. In 1999, the Government had to adopt a number of recovery measures, including considerable de-regulation of prices (electricity, gas, water, sewerage, transport, rental, etc.), which led to the growth of average inflation rate (measured through consumer price index) up to 10.6% in 1999. The inter-annual inflation was as high as 14.2% (31 December 1999).

Despite the negative trend in 1999 it is possible to say that the inflation rate was kept on a low level. Besides the monetary policy, a positive role was played by gradual reduction and final cancellation of import surcharge and by low world prices of resources. Besides obvious positive aspects of low inflation there are also some risks connected to reduction of aggregated demand and slow-down of development in the key economy sectors, where prices are regulated by the state.

#### **3.4.4 Foreign indebtedness**

Growth of the foreign indebtedness of the Slovak Republic has accompanied the whole process of economic reform since 1990. Prevailing part of borrowed financial sources were, however, used in a less effective way, or it has become a subject of personal consumption. The foreign loans were only slightly used for investments in modern information technologies, Internet and digitalisation of economy, whereas in the developed world the main investment stream goes to these areas. As other macroeconomic indicators show, the **growth of indebtedness** per capita in the recent decade **was not accompanied by adequate increase of economic efficiency**.

Table 17 Development of gross foreign debt of the Slovak Republic (data relating to the end of respective periods)

Indicator	1993	1994	1995	1996	1997*	1998	1999**	10/1999**
Foreign debt (USD billion)	3.6	4.7	5.8	7.8	9.9	11.8	10.1	10.5
Debt per capita (USD)	670	890	1100	1470	1870	2200	1860	1972
Debt as % of GDP	30.4	33.6	33.3	42.8	52.3	59.6	52.5	
Share of short-term debt (%)	-	26.5	30.2	38.4	41.4	38.8	25.4	25.5
Indebtedness of Government and National Bank (%)	56	48.6	34.7	21.6	18.2	20.3	26.3	24.5
Net foreign debt (USD billion)	1.8	0.5	0	0.7	1.9	4.1	4.2	4.5

Source: National Bank of Slovakia

\* real amount of the foreign debt of 31 December 1997 was higher by ca USD 800 million, reduction made due to accounting operation of one foreign bank

\*\* change of methodology

At the time of its creation in **1993, Slovakia belonged to countries with relatively low foreign debt**. In the 1995-1998 period, the foreign debt considerably grew. The total foreign debt of Slovakia during four years increased more than twofold (see the Table 17). The dynamics of growth of the foreign debt was increased most considerably in 1996-1997, which was connected to a significant deficit of the balance of payment, which was at low level of foreign direct investments covered in particular by foreign loans. Due to the lack of domestic sources and due to high price of these sources (high interest rates), a number of enterprises (in particular the large ones) carried out their investment activities with support from foreign sources in the form of loans or emissions of obligations (VSŽ, Slovnaft, Slovenské elektrárne, Vodohospodárska výstavba, etc.). However, when compared to trends in other V4 countries, the nominal value of the Slovak foreign debt is still relatively low. It is, however, important to compare the trend since 1994: of the V4 countries the most considerable growth of foreign debt in 1994-1998 was registered in the Czech Republic (by USD 13.3 billion; 124%) and in Slovakia (by USD 7.2 billion; 153%). On the contrary, the foreign debt was reduced in Hungary (- USD 5.3 billion; 18.6%) and it increased just slightly in Poland (USD 0.6 billion; 1.4%). The dynamics of growth of the foreign debt and its relative indicators (share in GDP, calculation per capita, ratio of export to foreign debt), as well as timing structure of debts and growing expenditures for the debt service show a negative development. Of the V4 countries, Slovakia at the end of 1998 achieved the **highest volume of the foreign indebtedness in relation to GDP** in current prices (58.5%). In 1999, the nominal value of foreign debt was reduced which was, however, caused by cancellation of a measure of the National Bank of Slovakia on currency position of banks for monetary purposes, which the central bank introduced in 1996 in order to limit provision of currency credits to inhabitants by domestic commercial banks.

Other problems are caused by e.g. credits of enterprises with state influence and by state guarantees to foreign commitments of enterprises, which according to estimate

of the National Bank of Slovakia account for ca USD 2.5 billion. These are mainly **problematic credits on infrastructure projects** with questionable return and without linkage to increase of export efficiency. Since 1990, the Government has provided state guarantees with credits to the amount of SKK 149.5 billion – e.g. only in 1999 the Government provided state guarantees with credits to the amount of SKK 29.26 billion. In 2000, loans with state guarantee in the amount of SKK 25.439 billion were payable, while the Government earmarked only SKK 10 billion for these purposes.

Besides the complex development of the foreign debt there is another important fact in the case of Slovakia – growth of so called **net indebtedness** (difference between gross foreign indebtedness and value of foreign assets). Since the first half of 1995 the gross foreign debt was growing more rapidly than the foreign assets. The value of net foreign indebtedness was increased from USD 1.9 billion at the beginning of 1998 to USD 4.1 billion on 31 December 1998, while during 1999 it continued to grow. The foreign debt per capita was USD 670 at the end of 1993 and USD 2,200 on 31 December 1998. This amount was reduced to USD 1,860 by the end of 1999.

In the future the foreign indebtedness of Slovakia needn't be a serious problem for economic development, because resources gained from privatisation of the strategic enterprises (e.g. banks, telecommunications, energy enterprises, etc.) can be used to reduce the foreign debt. At the same time, foreign loans are not so advantageous for enterprises due to decrease of interest rates of domestic financial sources.

### 3.4.5 Foreign trade and balance of payment

Slovakia belongs to countries, where the foreign trade plays a key role – the small countries are usual more dependent upon import of mineral resources and materials and upon the selling of domestic products on foreign markets. The structure of economy inherited from the socialist period is inappropriate – on one hand there are extensive production capacities without sale possibilities on the domestic market, on the other hand the existing production does not provide the domestic market with sufficient product variety. The foreign trade is at the same time an important factor of economic growth. From this point of view, Slovakia is a **country with open economy**, which is also manifested by the share of export in GDP (49.5%) and the share of foreign trade turnover in GDP (110%), which belong to the highest ones in the V4 countries.

The foreign debt is one of the areas, which the economic transformation influenced most considerably. Positive influence can be seen in the nominal growth of foreign trade exchange and in considerable change of its territorial structure (focus of trade exchange has been shifted to Western markets, in particular the EU). Negative changes are mainly **deficit of trade balance** (excessive surpluses of imports over exports of goods) and insufficient changes in commodity structure of trade.

In the 1991-1993 period, the foreign trade of Slovakia showed an overdraft. In 1994, the trade results improved and the trade balance achieved a surplus in amount of SKK 2.6 billions which was mainly due to favourable situation on the world markets, devaluation of the Slovak crown in 1993 (by 10%) and introduction of import surcharge (10%).

However, as early as 1995, the foreign trade of Slovakia achieved again deficit, which was gradually growing till 1998. Besides the fact, that the Slovak industry due to absence of a real restructuring was not able to get to foreign markets, growth of deficit was also caused by maintenance of a fixed rate of the Slovak crown which

lasted till October 1998. The actual revaluation of the Slovak crown led to reduction of competitiveness of the Slovak export which was also supported by increase of labour unit costs). The deficit of the current account of payment balance in 1996-1998 exceeded 10% of GDP. **In 1998, the trade balance achieved a record deficit** in amount of SKK 82.9 billion, which was 11.3% of GDP.

In 1999, an improvement of trade balance was achieved, in particular due to significant decrease of speed of import growth and due to renewal of economic growth in the EU countries. The trade deficit was reduced ca to 55% as compared to the 1998 situation.

*Table 18 Indicators of foreign trade in goods in Slovakia since 1993 (SKK billion)*

Indicator	1993	1994	1995	1996	1997*	1998	1999	2000
Export	167.5	214.4	255.1	270.6	324	374.9	423.6	548.4
Change	-	28%	19%	6.1%	19.7%	15.7%	13.0%	29.5%
Import	193.5	211.8	260.8	340.9	392.4	455.8	468.9	590.7
Change	-	9.5%	23.1%	30.7%	15.1%	16.1%	2.9%	26.0%
Trade balance	-26	2.6	-5.7	-70.3	-68.4	-80.9	-45.3	-42.3
Change (billions)		+28.6	-8.3	-64.6	+1.9	-12.5	+35.6	+3

Source: Statistical Office of the Slovak Republic, Ministry of Economy, National Bank of Slovakia

\* - change of methodology

\*\* provisional data

In assessment of foreign trade the **figures on foreign trade in goods** are most often used, while the **trade in services** with growing importance in global scale is given smaller attention, that is not justified. In Slovakia, however, their share in total trade is despite nominal growth decreasing (see the Table 18). The trade in goods still maintains the decisive position in foreign trade relations. Slovakia is achieving an active balance of services mainly due to transit of natural gas, modestly active balance with continuing growth in 1999 is being achieved in tourism, while the area of "other services" is in permanent deficit.

The indicator of **share of export in goods and services in GDP** is most often used in assessment of export efficiency (see the Table 19) – based on that, it is possible to see an **adverse development**, when the share of export of services to their import is still decreasing.

*Table 19 Share of export/import of services to export/import of goods*

	1993	1994	1995	1996	1997	1998
Export	35.9%	33.7%	27.7%	23.4%	26.3%	21.6%
Import	26.8%	24.2%	20.9%	18.3%	20.4%	17.6%

Source: National Bank of Slovakia

### 3.4.6 Foreign investments

Slovakia had all pre-conditions to become an attractive country for foreign investors mainly due to the advantageous geopolitical location, available and relatively cheap human resources, diversified industrial enterprise basis and due to possibility to utilise comparative advantages in the area of salaries and energy inputs. Despite these advantages, however, the **foreign capital in Slovakia has a relatively limited representation**, which is a consequence mainly of unstable political and economic environment, high legislative risk, untransparent privatisation, non-privatisation of banking sector and decrease of rating of the Slovak economy.

Positive contributions of the functioning of foreign capital are obvious – transfer of knowledge and technologies, real financial resources, increased business culture, increased employment, salaries and labour productivity. Presence of foreign management supports also standardisation of business environment, other investments are stimulated and capital market is supported. From the point of view of sustainable development the excessive transfer of foreign investments can lead to adverse consequences (sustainable development stresses orientation to local resources and use of local capital), therefore it is important to consider advantages and disadvantages of transfer of foreign capital on ad-hoc basis.

**Non-standard procedures in privatisation of the national property** were fully reflected in participation of foreign investors in this process. Since 1993, only few foreign subjects have become acquirers of the national property in the privatisation process. The 1995-1998 period meant a practical exclusion of foreign investors from privatisation of the national property under the pretext of creation of a domestic capital social group. However, even after 1998, despite adoption of the Government Programme to support investment the **growth of foreign investments** did not occur. Comparing to the situation in neighbouring countries, the share of foreign investment in Slovakia is very low and as much as 60% of investments are concentrated in the Bratislava region.

The share of net increase of foreign investments in GDP has showed decreasing tendency since 1994 (see the Table 20). A modest increase appeared in 1998, though the share of foreign direct investments in amount of 2.2% in GDP is still very low. The main reasons of the low volume of foreign investments in Slovakia are continuing political instability, low effectiveness of the legal and regulatory framework, high tax burden, low level of institutional framework and high competitiveness of other Central European countries on the market with foreign investments leading to better position of other V4 countries. In the 1990-1999 period, Slovakia managed to attract only 3% of foreign direct investments going to the V4 countries.

*Table 20 Foreign direct investments (FDI) in V4 countries (USD million)*

Country	1995	1996	1997	1998	1 <sup>st</sup> half of 1999	Volume of FDI as of 30 June 1999 (USD million)	Share of countries in FDI (in %)	FDI per capita (in USD)
Poland	2,511	5,196	8,560	10,064	4,857	35,506	51%	920
Hungary	4,570	2,040	2,107	1,935	853	20,544	29%	2,014

Czech Rep.	2,732	1,428	1,301	2,540	1,183	12,084	17%	1,173
Slovakia	304	295	197	447	110	1,831	3%	339
Total	10,117	8,959	12,165	14,986	7,003	69,965	100%	1,085

**Source: (Hungary: HCSO), (Czech Republic: Czechinvest), (Slovakia: National Bank of Slovakia), (Poland: PAIZ),**

\* 1995 data come from WIIW Vienna, Monthly Report 6/1999.

The biggest investors in Slovakia are Germany and Austria, there was considerable growth of capital from USA, United Kingdom and the Netherlands. The share of the Japanese and Asian capital is negligible. Sectoral division of foreign investments is stabilised – a half of investments go to industry (47.5%). The share of investments in trade activities (18.9%) is gradually decreasing in favour of investments in the financial and insurance sectors (21.6%). The **strengthening of share of foreign capital in the banking sector** will probably occur due to privatisation of the largest banks. Foreign investors are likely to participate also in privatisation of strategic enterprises (telecommunications, production and distribution of electricity, storage and distribution of gas, etc.).

### 3.4.7 Structure of economy, export and import

The current structure of economy of Slovakia is at the level of a **medium developed industrial country**. The secondary (industrial) sector after 1989 remains a main sector, the share of the primary (agricultural) sector has decreased and importance of the tertiary sector (services) has increased. According to production of added value in respective sectors (*World Development Indicators, 2000*), in 1989 in Slovakia 4% of GDP fell on the primary sector, 32% of GDP on the secondary sector and 64% on the tertiary sector. In USA in the same year 2% of GDP were produced in the primary sector, 26% in the industrial sector and 72% in the tertiary sector. As regards the group of the highly developed countries, on the average 2% of GDP were produced in the primary sector, 33% in the secondary sector and 65% in the tertiary sector. Although with these relative figures Slovakia is getting closer to the developed countries of the world, such a comparison provides a relatively distorted picture on the state of the Slovak economy. E.g., these **statistical data do not reflect diversification of the service sector** – in the developed countries the newly appearing structures of information economy, digital economy and electronic business are being gradually separated. In Slovakia this trend was not caught and the macrostructure of the Slovak economy after 1990 was modified on the basis of central decisions. Result is the quantitative growth of the service sector without sufficient qualitative development and linkage to information technologies.

The previous changes in the structure of the Slovak economy showed to be ineffective – it resulted in **structural deformations** (in particular inappropriate structure of the secondary and tertiary sectors) leading to structural unemployment, low efficiency and productivity of the economy. The inappropriate structure of industrial sector is a result of preferring the areas of heavy industry during socialism, the inappropriate structure of the service sector is rooted in underestimation of newly appearing sectors connected to modern information technologies and, on the other hand, in dominance of traditional sectors, which are not related to information technologies (which is the result of central interventions into the structure of the economy in 1990-2000).

**Lagging behind the developed countries of the world in informatisation** is influencing the unfavourable position of Slovakia in the world economy. Missing the trends in development of Internet and digitalisation of economy can be an important obstacle on the way to redirecting of the Slovak economy towards the modern post-industrial economy, which is in accordance with principles of sustainable development. The economy of Slovakia is still organised in the form of traditional industrial hierarchies, which can be considered as an important negative aspect from the point of view of sustainable development (the focus of redirecting of the world economy is being shifting towards the net organisational forms). At present, Slovakia is not capable to join the networks of the world economy due to organisational and structural incompatibility.

The unfavourable structure of the Slovak economy is obviously also based on some data on **trade balance**.

**On the side of export**, an important part is created by products with lower level of processing and use of modern technologies, and with lower value added (despite some minor changes). From the point of view of purpose, these products include products of short duration and products intended to production processes as mineral resources, materials or semi-products. Competitiveness of these products is questionable, mainly due to considerable fluctuation of prices of mineral resources. The Slovak export is to considerable extent dependent on the same products as before 1989. Slovakia is successful on the foreign markets with products, which do not demand much labour and capital or which come from traditional sectors. The share of these products in total export from the processing industry is 50% – in the case of import it is only 27%.

Growth of export, when compared to the 1998/1999 period, is 11.8%, which is due mainly to results of positive development of export in commodities of machinery industry, of that in particular motor vehicles and trailers. There was also growth of export of commodities from the electrotechnical industry, textile industry, wood processing and furniture production, pulp-paper industry, which means export of commodities with higher value added. On the contrary, the largest fall of export was registered in the metallurgical industry.

On the other hand, Slovakia mostly **imports products of modern sectors** in the form of products of long duration and investment goods (44% of import), while the share of these products in import is only 34%. The largest increase of import in 1999 was in the chemical industry, on the contrary the biggest fall of import was in the machinery industry.

The overall improvement of situation in trade deficit of the Slovak foreign trade was mostly supported by development in the machinery industry, when in 1990 the rest was SKK 2.1 billion (in 1998 there was an overdraft SKK 25 billion). The increase of the rest was achieved in the wood processing, furniture production and pulp-paper industry. The building sector also registered a modest growth of the rest. The rest in metallurgy slightly decreased. In the areas of chemical and pharmaceutical industries the overdraft was increased and in the area of electrotechnical industry it was reduced. In trade with agricultural produces the balance of foreign trade was stabilised on the level of deficit similarly as it was in 1998 – in amount of SKK 15.2 billion.

The Table 21 shows for comparison the structure of trade balance in Slovakia and in economically developed EU countries. The data show a rest of the Slovak economy (dominance of export) in products demanding labour and capital, semi-products, goods of short duration and products from traditional sectors and, on the contrary, an



overdraft (dominance of import) in products demanding science and research, goods of long duration, investment and component products.

*Table 21 Competitiveness of production areas according to selected indicators*

Production areas	Trade balance/value added		Coefficient of covering import by export		Relative comparative advantage	
	SR	EDC	SR	EDC	SR	EDC
labour demanding	+64.1	-21.7	1.39	0.77	54.1	-31.4
capital demanding	+95.7	+1.9	0.95	1.03	16.5	-33.1
science and research demanding	-136.7	-28.6	0.57	0.94	-34.1	-11.0
traditional sectors	+107.8	-9.8	1.74	0.88	76.8	-17.4
modern sectors	-201.6	-34.2	0.58	0.96	-33.2	-9.2
goods of short duration	+82.9	+1.9	1.63	0.95	70	-9.9
semi-products	+123.2	-16.8	1.64	0.84	71	-22.5
goods of long duration	-18	-9.2	0.71	0.95	-12.8	-10.2
Investment and component products	-142.8	-14.7	0.57	0.93	-35.7	-12.3

SR: Slovak Republic, EDC: economically developed countries of the EU

Source: Institute of World Economy of the Slovak Academy of Sciences

The most of the Slovak products are successful in the international trade only due to pricing competitiveness – the Slovak industry has to export larger volumes to cover import than countries, from which products of the processing industry are imported. Adverse trends of export development continued also in 1999. **On the side of import** Slovakia remained dependent on **supply of strategic resources** (mainly oil and natural gas) from Russia without any diversification. Moreover, the lagging of used technologies causes a lasting high resource intensity of domestic production which conserves the existing commodity structure of export. Taking into account a relatively low share of domestic final production, an important share of import at existing liberalisation level and domestic demand is created by products of long duration with high value added, which are based on use of modern technologies. Slovakia imported mainly machinery, equipment and electric devices, cars and other transport facilities.

### 3.4.8 Main sectors of economy

#### 3.4.8.1 Agriculture

In majority of countries of the world the agriculture plays an important role in economy. Its share in total GDP and employment, its competitiveness and efficiency point out at an overall level of development of the economy. From the point of view of sustainable development **agriculture has a specific character** – sustainable development assumes renewal of importance of agriculture which together with extension of the service sector and information economy in the post-industrial phase

of the society should replace dominance of the industrial sector in the previous phase of development.

The agriculture in Slovakia during ten years of economic reform (1990-1999) faced pressures of market forces oriented to higher effectiveness, efficiency and adjustment to market conditions on one hand, and on the other hand its development was hampered by the restrictive economic policy and by the policy of macroeconomic stabilisation, which did not allow its restructuring, introduction of modern technologies and progressive organisational forms. This policy to great extent led to conservation of obsolete organisational forms, low labour productivity and low competitiveness of the Slovak agriculture. Taking into account the current efficiency and continuing macroeconomic restriction, the agriculture will be a problematic sector in integration efforts of Slovakia, but on the other hand it will be also a developmental chance in the case of redirection of the Slovak economy on the trajectory leading to sustainable development.

In 1998, approximately 1% of GDP was produced in agriculture (of total number of workers in the national economy 1.22% were employed in the agriculture sector). It describes **low level of restructuring and ineffective technological level of the sector** and non-evaluation of non-productive functions of agriculture. Real number of inhabitants working in agriculture is, however, much higher – high level of self-supply of agricultural produces is still typical for Slovakia in rural areas.

However, agriculture cannot compete in productivity with other sectors sharing in production of value added. In 1990-1997, the gross agricultural production dropped by 29.1% (in 1995 constant prices). This fall is caused by gross plant production (fall by 33.2%) rather than by gross animal production (reduction by 25.9%). Two phases can be distinguished in this development. Sharp fall in the first years of transformation culminated in 1993. After this year a modest, but fluctuated, growth began.

The **plant production** was profit-making during the whole previous reform, with inter-annual fluctuation caused mainly by climatic influences. Maintaining a relatively high profitability of cash crops (wheat, barley, maize and sugar beet) was enabled by growth of prices oscillating around cost growth, in some cases prices even exceeded cost increase. Oil-seed rape and potato were usually loss-making. In favourable production conditions the profitability at higher input intensity (higher unit costs) is considerably higher than in unfavourable production conditions. At ca threefold costs almost six-fold profitability is achieved. Profitability of plant production was increased when compared to 1990 (with and without subsidies).

Loss-making is prevailing in the **animal production** in the whole period. Especially big loss was achieved in 1991-1993. Milk production achieved a profitability of 7% in 1997 (with subsidies). It started to recover after 1994 due to combined influence of pricing stabilisation and subsidy policy. In 1998, without subsidies the loss per one litre of milk was ca SKK 1.10. Beef production is still loss-making even with subsidies. Pig production improved a little bit in recent years, however, without subsidies it is still loss-making. While the plant production managed to adapt to the market conditions using its structural advantages, the animal production was not successful in this process, perhaps due to too high ineffectiveness of input transformation, limited mobility of production factors and lack of market incentives resulting from macroeconomic conditions of the economy in transition.

**Several phases** can be distinguished in the agricultural policy after 1990. The first phase (1990-1993) in connection to adopted scenario of the economic reform was aimed at creation of a market-oriented and effective agricultural sector, which could

be successful in international competition. It resulted in adaptation of agricultural production to actual demand, but expected change in effectiveness and competitiveness of production did not occur. There were several reasons of that – the most important one seems to be the excessive budget restrictions, which led to immediate reduction of production and to reduced use of invested fixed capital. Due to business liberalisation agricultural enterprises in most cases lost their non-agricultural income sources.

The next phase of the agricultural policy was oriented to stabilisation of conditions in the sector. Its explicitly formulated objectives were derived from traditional objectives of agricultural policies in the Western European countries aimed at protection and support of agriculture together with massive transfers from consumers and taxpayers. Several pragmatic solutions were adopted, which contributed to stabilisation of sale conditions for primary producers as well as to alleviation of lack of liquidity. Since 1994, the direct payments to support purchase of operational inputs and investment subsidies to purchase of machinery were being increased which contributed to reviving of investments as well as to growth of input prices.

In the first half of 1999, approximately one fourth of labour worked in agriculture, when compared to 1989 situation. Relatively high rate of dismissal was typical for agriculture in 1998 – as regards reduction of employment, agriculture occupies the first position among the sectors. These **depressive changes in agricultural employment** are rooted not only in economic recession of the sector (loss in amount of SKK 1,457 million was produced in the first half of the year) but in decrease of share of capital-demanding work and considerable pressure on rational use of labour leading to higher appearance of season employment as well.

The Slovakia's agriculture will play an important in getting to trajectory of sustainable development, which will be connected to ability to **effectively use and economically evaluate the natural resources**. Slovakia is self-sufficient in a great number of agri-food commodities and since 1993 the self-sufficiency rate has increased. In 1997, the domestic production did not cover consumption of potato, fruit, pork and beef and consumption of some food products (meat, killed poultry, butter, cheeses, edible plant fats and oils, equalised milk, wheat flour, beer, wine and other alcohol). Using the whole production potential, Slovakia has conditions to cover more than the domestic consumption of agri-food goods produced on the basis of agricultural production of the modest climate zone.

The following phase of the agricultural policy, which is to prepare the sector to future accession to the single market of the European Union, concentrates on a thorough restructuring of the microsphere (including proprietary consolidation) and better allocation of production in accordance with production conditions through selective support of individual production and regional segments of primary production.

Agricultural land, which is located in **better natural conditions**, should be more used for plant production (maintaining a reasonable level of breeding of agricultural animals). Subsidies to alleviate negative impacts in worse natural conditions on production results are provided for more purposes – they are intended to support production on such level of intensity, which allows maintenance of cultural features of the landscape. It is being confirmed that the current subsidy levels per 1 ha do not enable to create sufficient sources for development of diversification of economic activities in order to better utilise and process local resources, to create new employment opportunities, improve social conditions for people to keep them in rural areas, protect the nature and drinking water resources, etc. External sources will have to be involved in development of these activities and the Ministry of the

Environment, Ministry of Labour, Social Affairs and Family and Ministry of Culture should participate in support of this development.

The model of agricultural policy, which was aimed at maintenance of agricultural production also in **worse natural conditions**, was not successful. Although agricultural production was maintained, after all it is loss-making and worsens the overall effect of agricultural production in the national context. Neither the expected restructuring in favour of animal production was successful. In these areas the loss-making agricultural production is maintained at the cost of SKK 3.5 billion annual subsidies collected from the tax-payers. Priority of agriculture in these areas should be in particular development of traditional forms of agriculture, alternative (so called ecological) agriculture and support of non-productive functions of the landscape.

**Restructuring of use of agricultural land** should not be motivated only by changes in the political and economic conditions or proprietary and user relationships. From the comprehensive point of view it should be a permanent process of creation of conditions for harmonisation and stabilisation of relationships between natural characteristics and human needs in accordance with sustainable use of productive abilities of the soil and landscape resources. Objectives and procedures of restructuring of soil use perceived in this way are today on the first positions in agendas in the developed countries (sustainable land use planning) – it is also a challenge for the Slovak Republic.

The potential of productive, ecological and environmental functions of the soil, forest and water is at present on the limit of self-sufficiency. That means that the quantity and quality of natural resources have to be carefully protected and considerable changes of the resources are not acceptable. Measures are needed (expert, legal, supporting) which allow not only sustainability of all functions of the soil, forest and water but in many areas also their extended reproduction as well.

The man with his activities demonstrated ability to positively affect the soil, water and forests, but he also failed to protect and enhance them. The take of quality arable soils led to considerable decrease of the overall production potential of our soils. This trend has been recently almost stopped and the area of our soils has been relatively stabilised. Industrial production and partially also agro-chemicals and agro-meliorants have polluted a large part of the soils. Water erosion threatens almost 40% of arable land. **Adverse impacts on soil fertility** still persist – they include erosion, contamination of soils and groundwater, soil acidification. Soil acidification adversely affects chemical processes in soils and nutrients and reduces the soil fertility. We should concentrate on protection and management of damaged soils and improvement of soil fertility as a fundamental issue of protection of non-renewable natural resources.

The **current structure of agricultural production** is oriented to use of intensifying factors. The natural structures of cultures, created in the past by generations of farmers under pressure of working market conditions, were damaged during the directional system. Ploughed meadows in river valleys and pastures on slopes with a thin layer of arable land weakened also the non-productive functions of agriculture. Delimitation of areas of absolute and alternative cultures should lead to **increasing effectiveness of productive and soil protective functions of agriculture**. For more profitable use of natural conditions in marginal areas there is a perspective to reduce area of arable land in favour of permanent grasslands, to stimulate breeding of ruminants and to increase the share of organic farming with limited chemical inputs. Together with milk production, breeding of pigs and poultry will be justifiable in fertile lowlands of production areas. Profitability and competitiveness of plant production through decreasing the unit costs to the level of world prices of production

will be achieved by intensification of inputs, using the principle of cost reduction, prospectively in combination with the system of precise management.

Agriculture can considerably contribute to solution of issues of energy from the point of view of savings and environmental interrelations. In the framework of reconstruction and modernisation of the productive and technological basis of the agri-food sector a specific position is given to use of untraditional energy resources (bio-oil, bio-gas, straw, wooden material) and renewable energy resources (solar, wind, water and geothermal energy). In utilisation of energy from biomass it is necessary to take into consideration its functions in the landscape.

The **food safety** is a strategic interest of the country relating to agriculture. In order to achieve a stable food safety it is important to ensure technological development of agricultural and food production, adequacy of input and output prices and prices of invested capital and working system of purchase and sale. One of eight basic objectives of the agricultural and food policy of Slovakia is *“adjustment of agriculture to environmental requirements relating to protection of soil, water and air and conservation of the natural environment, species diversity and protection of traditional gene pools”*.

### 3.4.8.2 Forestry

**Coverage of the total area by forests** in Slovakia is achieving 40.6% which ranks the country as the **fifth country in Europe**. According to forest area per capita (0.37 ha) Slovakia occupies the tenth position. The forestry provides economic, public, cultural, historical and social aspects of forest ecosystem management and use. It ranks among the primary production sectors ensuring extraction and preparation of resources for further processing sectors. Besides that, it ensures and mediates production and provision of internalities or externalities of forest production in the form of public benefits from forests and forest management services.

Even despite favourable values of some indicators describing the forest soil area within Europe, the **position of forestry in the Slovak economy is unfavourable**. This is being confirmed by majority of selected macroeconomic indicators of forestry in relation to indicators of the national economy in Slovakia. In 1990-1998, the share of forestry in GDP fluctuated in the 0.69-0.97% range of the total GDP despite the fact that the share of a number of people working in forestry to the total number of people working in the national economy was almost double (1.23-1.49%). The real value of GDP in constant prices was dropping since 1990 till 1994, when its value started to grow slightly with a small decrease in 1998. Reason of different development of GDP of forestry and the economy of Slovakia can be found out already from comparison of indexes of inter-annual growth of GDP in current prices. While the index of GDP growth in the economy is 2.57 in 1998-1999, in forestry it is only 1.82. The difference is caused by the fact that the forestry is a primary production sector where the GDP value is created mainly through labour price and capital of products sold on markets. Price of a natural production factor (forest land) is represented in GDP by a relatively small portion from the forest land value, due to undeveloped market with these commodities and prevalence of supply over demand not only in Slovakia, but in all countries in transition and other European countries as well, where relative surplus of wood and wooden products exists. Specific role, however, is also played by the lagging of average quality of products of the wood processing industry in Slovakia, which is rooted in the bad technological equipment, human negligence and insufficient technological discipline. Appreciation of human labour, price of wooden products and yields from forests depend on evaluation of wooden products. GDP value does not include any more benefits from internalities

and externalities of forest production and activities carried out in public interest. A considerable part of these non-wooden and public benefits is used by inhabitants within personal consumption or on market and by business enterprises within other sectors (agriculture, water management, hunting, economy, tourism, sport, education, etc.). Products and services of these sectors provide a great part of these benefits, which have been produced as externalities of forest production or as internalities of public functions of forests.

Of the basic production factors in forestry in 1990-1998 the natural production factor was developing more favourably. In this period, the production factor of capital was developing unfavourably. The active machinery was physically and economically obsolete (ca 70%). More than 60% of machinery used in forest production exceeded their lifetime due to the bad financial situation of owners and users of non-state forests. The **low level of investment** in forestry is demonstrated by development of the indicator of the share of investment in total investments in the national economy in Slovakia. This indicator dropped from 0.79% in 1990 to 0.19% in 1998. Insufficient investments can be also seen on the indicator of the share of investment in forestry in its GDP, which fell from 20.5% in 1990 to 11.6% in 1998. Reasonable rate of investment starts from 25% share of investment in produced GDP, however, in forestry it does not achieve even the half of this lower value limit. The long-term investments in cultivation activities increased in 1990-1998 in current prices by 110%. However, when expressed in constant prices, there was a decrease of these investments in 1993-1998 by ca 20%. Adverse situation of the economic development in Slovakia is underlined by the share of specific inflation rate in the sector in the overall inflation rate in Slovakia. Except for 1991 and 1992, when liberalisation of price of wood was practically carried out, and except for 1997, when the average price of wood was improved by larger export of wood, this indicator was considerably lower than the balanced 100%.

**Objective of extraction of resources** in forest production processes is production of timber and other benefits from forests and renewal of forest and its public benefits. Forest production in its intensive form is carried out in economic forests and with certain limitation also in the forests of special purposes, i.e. on 84% of the total area. State organisations as managers of the state forest property and the non-state undelivered forest property or hired forest property cultivate ca 62% of forests. The rest is cultivated by non-state subjects. Of the total forest area ca 330 million m<sup>3</sup> of wood reserves are utilised through annual felling of 1.4% of reserves, which is ca 5.5 million m<sup>3</sup>. Of that amount the coniferous forests represent 55% and the leafy forests account for the rest. The total costs of forest production in current prices increased in the 1990-1998 period by 101.8% – of that material costs including depreciation by 39%, depreciation of active and passive production goods by 40%, personal costs by 72% and expenditures for salaries by 81.9%. The lowest growth was in material costs including depreciation, which was caused by the low rate of renewal of production capital and by reduction of outputs within the forest production, but also by the depreciation methodology.

The long-term strategic objective of forestry and forest management is **conservation, enhancement and cultivation of forests** in order to achieve a full potential of their production and public functions. Ensuring this objective in the framework of conceptual intentions and concrete steps of the forestry policy sufficiently accepts principles of the historic forestry in Europe, which are sustainability, balance and well-proportioned use of forest benefits. These principles are the basis of sustainable development. There was an increase in forested area in 1990-1998 by 0.5-3.39 ‰, except for 1993, 1995 and 1996. In this period, **increase of wood reserves** was registered each year in amount of 12.05-22.35‰. That

means that decrease of forested area in 1993 (by 0.31‰) and in 1995 (by 0.08‰) did not have any remarkable impact on the wood reserves. The indicator of share of annual felling in total wood reserves was in individual years in the range of 1.13-1.51%. Value of this indicator points out at the use of wood production function of our forests. Under the condition of normality of the Slovak forests, taking into account the area of protective forests and forests with protected territories of small area, the limit value of coefficient of the share of annual felling in total wood reserve should be as much as 1.80. This documents a certain reserve in the wood production use of the Slovak forests. The level of achievement of sustainable development is also characterised by the share of protective forests and forests of special purposes which was still growing in 1990-1999. In 1998, the protective forests covered 15.30% and the forests of special purposes 17.80% of the forested area. The share of area of **protected territories on forested lands** per capita is further indicator of sustainable development where Slovakia achieves foremost positions within Europe. Value of this indicator decreased in 1998 when compared to 1991 by 0.01% due to population growth and not due to decrease of protected areas.

Improvement of conditions in forest management from the point of view of sustainable development can be seen in indicators of demonstrating the share of forms of **underwood and selective cultivation**. Although these indicators show some fluctuations, an overall positive trend in growth of their share is sufficiently evincible. In 1998, the share of underwood cultivation increased by 284% and the share of selective cultivation by 109%, as compared to 1990.

The **development of forested area** during last 9 years showed a modest increase of the forest area. Moreover, in relation to accession of Slovakia to the European union there will be a surplus of agricultural lands inappropriate for agricultural purposes. By 2010 there could be 50,000 ha of such lands suitable for afforestation. Next 250,000 ha could be afforested by 2050. By 2010 the forest coverage would increase by 2% and by 2050 by 5%. The developmental trend in wood reserves in 1990-1998 is a pre-condition of their further positive development. The overall development of wood reserves is mostly determined by increasing forest area, improvement of ageing structure, increasing stand density, growth conditions, reduction of forest damages caused by a complex of damaging factors (in particular by deposits of pollutants and reduction of incidental felling). Reduction of incidental felling and growth losses will lead to increase of average wood reserves per 1 ha of forest area. According to the programme of development of forest management till 2010 the felling capacities in the Slovak forests should increase from 5.7 million m<sup>3</sup> in 1999 up to 6.1 million m<sup>3</sup> in 2010. That means an annual increase of felling in amount of ca 40,000 m<sup>3</sup>. This development is enabled by a favourable increase of total wood reserves, especially reserves of felling vegetation. The real felling and its structure can be affected by volume of incidental felling and situation on domestic and international markets with wood. Since 1995 the development of wood price on the domestic market stagnates. Prognoses and conceptions count on a nominal growth of average prices by ca 6%. In fact, the real price of wood has been decreasing for several years.

As regards the monitoring of the **health state of forests**, carried out on the basis of defoliation rate, a considerable improvement has been registered since 1997. The overall improvement has been caused by reduction of both domestic emission sources and long-range transboundary transfer of pollution from abroad. This fact can in several regions lead to a phenomenon that real burdens of some emissions will stop acting retardatorily. The overall reduction of forest damages, in particular by human factors, results in reduction of incidental felling. This fact can influence also reduction of occurrence of calamities of biological character due to improvement of resistance potential of forests. Natural calamities of abiotic character to certain

intensity level depend on incidentalness of their occurrence. The resistance potential of forests, reflecting their health state, will affect their effect just negligibly.

### 3.4.8.3 Water management

Development of water management in Slovakia after 1990 was considerably affected by transformation of the Slovak economy. Due to the historic development the water management plays an important role in the Slovak economy. Economic benefits of water management are connected mainly to supplies of surface water, drinking water and service water, sewerage and waste water treatment. Besides these economic activities, the water management provides a number of public services with positive impact on water management development in Slovakia, on the living standard of inhabitants and on the state of environment. In 1990, the state water management enterprises were running material and non-material investment property in the amount of SKK 109,562.1 million, while this property has increased by 1.7 times since 1990. The river basin enterprises controlled 29,334 km of river network in 2000, which was 60% of the total length of river network in Slovakia. In 1990-1999, the installed output of energy facilities increased from 506.7 MW in 1990 to 2,419.62 MW, i.e. by 4.77 times. The **total controllable volume of reservoirs** (1,890 million m<sup>3</sup>) was increased by 798 million m<sup>3</sup> which allowed to regulate the natural outflow of water from the territory of Slovakia, improve flow rates, protect territories, ensure water abstractions and the use of water for energy purposes. Territory of 5,764 km<sup>2</sup> is now protected against decennial and higher-level water through protective measures. Since 1990 the **total length of water supply network** has increased by 6,474 km, achieving length of 26,232 km. The **total length of sewerage network** has increased by 1,666.1 km, achieving 7,040 km (increase by 31%).

**Supply of paid surface water** is decreasing in total territory of Slovakia – in 2000, it was 392.1 million m<sup>3</sup> which less by 2.66%, when compared to 1999. The **total number of inhabitants supplied with drinking water from public water supply** increased up to 82.7% of the total number of Slovakia's inhabitants. The specific water consumption in households decreased by 72 litres per capita in 2000, when compared to 1990, which is a decrease by 36.8%. The **number of water pipelines** was 839 in 1999, of those 231 water mains.

From the organisational point of view, four state river basin enterprises have been integrated into one organisational unit, the State Water Management Enterprise. Transformation process of the state water and sewerage enterprises started in 1995.

The main objective of this process is de-nationalisation of the property of water and sewerage enterprises through creation of water companies, where the shareholders will be property owners (municipalities). The transformation process of the state water and sewerage enterprises is managed by the Ministry of Soil Management of the Slovak Republic in accordance with a procedure approved by the Government (2001).

Water management is becoming to be of **strategic importance** in the 21<sup>st</sup> century, taking into consideration that water resource availability is starting to be one of the global problems of the world population. In this regard Slovakia is in a relatively good position from the point of view ability to provide each inhabitant with sufficient amount of water. Despite this fact it is necessary to be prepared to situation that **available water resources** on the territory of Slovakia **will be gradually reducing** (in relation to global climate change).

The water management in Slovakia is significantly affected by the industrial phase of development, by centralised control and by centralisation of water resources. The



shift to sustainable development will require a greater diversification of water resources, de-centralisation of management on the level of six water companies and acceptance of water as a strategic resource and national safety issue. Besides its economic role, water should fulfil also other equally important roles relating to living standard of inhabitants. The shift to sustainable development will be also connected to **abandoning of philosophy of necessity to build large capacity water reservoirs**. Greater attention will be paid to all available ways of providing inhabitants with water with due consideration given to regional and local specifications. Application of sustainable development assumes preferring of decentralised approaches, nature-friendly approaches, orientation to consequent use of local resources, reduction of environmental pollution (in particular hydrosphere), strict protection of resources, rational use and maximal saving of resources, protection of species diversity which is to the great extent bound to hydrophilous ecosystems. The integrated systems should focus on compensation of deficit areas (or periods) or extremes for the case of accidents, etc.. However, they should not fully substitute for local resources. The important characteristics should include reduction of consumption, **rationalisation of water management** in the landscape at technological use of water resources and consumption by inhabitants.

#### **3.4.8.4 Industry**

The Slovak Republic ranks among the medium developed industrial countries – Slovakia as a part of Czechoslovakia became a **medium developed industrial country with developed industry**, when in particular after 1948 the major investments went to building the industry. Before 1989, the Slovak industry began to lose its competitiveness especially due to low level of productivity, which achieved ca 30-40% of the world productivity, low quality of production, low informatisation and automatisisation of industrial sectors and missing the trends of informational society. High share of armaments industry and orientation to the Eastern markets were specific for the Slovak industry.

After the start of reforms in 1990, a **sharp decrease of industrial production** occurred due to the loss of the Eastern markets, low competitiveness of production and decommissioning of major part of industrial production capacities. In 1994, there was the deepest decline in industrial production – 19.4%. Since 1994 the industrial production has been growing. In 1995-1998, the GDP produced in industry increased by 119.5%, which is lower increase than in the whole economy of Slovakia. Food and machinery production, production of electric equipment and transport facilities increases their share in GDP production. On the contrary, in the case of heavy industry sectors (chemical production, production of metals, coke, etc.) their share in creation of GDP is decreasing. The table 22 shows development of the share of industrial production in creation of GDP of the Slovak economy.

**Since 1995, GDP is still growing** (in current prices). This concerns both the Slovak economy and industrial production. The only sectors, where during the monitored period of 1995-1998 GDP was growing each year, were production of machinery, electric equipment and transport facilities. In 1998, there was a slow-down and decrease of index of GDP growth – both in the national economy and industrial production, except for production of food and machinery, electric and transport equipment.

**The total share of industrial production in value added** in the Slovak economy decreased from 24.8% in 1997 to 24.5% in 1998. While in this 1997-1998 period the inter-annual growth of the value added in the Slovak economy was up to 109.5% level, the value added in industrial production increased only to 107.9%. The highest

growth of value added is in production of transport facilities (inter-annual growth to 158% level). On the contrary, the biggest decrease of growth of value added was in production of oil products and coke, production of metal products and in unclassified production. 573,431 employees worked in industrial production in 1997 (28.5% of total employment). At the end of 1998 this figure dropped to 554,420 employees (28.1%). The biggest inter-annual decrease of the number of employees was registered in the sectors of fur processing, production of chemical products and paper production. Growth of the number of employees was registered only in production of electric equipment, transport facilities, non-metal products, rubber and plastics. The largest employers are in production of machinery, foods and metal products.

*Table 22 Development of GDP share in 1996 -1998 in SKK million (in current prices)*

Sectoral classification of economic activities	1996	Share in GDP (%)	1997	Share in GDP (%)	1998	Share in GDP (%)	1999	Share in GDP (%)
Total GDP	606,094	100	686,087	100	750,761	100	815,330	100
Industrial production:	146,947	24.2	154,553	22.5	166,713	22.2	178,063	21.8
Of that:								
Food production	20,336	3.4	20,121	2.9	24,933	3.3	27,435	3.4
Production of oil products, coke, chemical products, rubber and plastics	28,762	4.8	27,873	4.1	30,531	4.1	29,051	3.6
Production of metal products	25,362	4.2	26,544	3.9	26,706	3.6	27,601	3.4
Production of machinery, electric equipment and transport facilities	33,454	5.8	36,575	5.3	40,461	5.4	47,815	5.9

Source: Statistical Office of the Slovak Republic, 2000

There was a relatively favourable development of the **indicator of labour productivity in industrial production**. In the 1995-1998 period, the labour productivity was growing in all sectors of industrial production – the highest growth was in production of motor vehicles (295.6%). The highest labour productivity is being achieved in sectors demanding much material, e.g. production of coke, production of oil-based products and core fuels, production of motor vehicles and metals. On the contrary, the lowest labour productivity is being achieved in sectors of clothing industry, fur processing and production of fur-based products and textile industry. A clearer growth of labour productivity was in the recent period registered in so called modern sectors. On the contrary, growth of labour productivity in traditional sector of heavy industry, textile and clothing production is being slowing down modestly. From the point of view of sustainable development of industrial production this trend can be considered to be positive.

In 1995, the **commodity production** in the sectors of industrial production achieved amount of SKK 365,792.4 million, while in 1998 this figure was SKK 462,862.5 million, i.e. a growth to the 126.5% level. Of the total number of 22 sectors of industrial production the above-average increase is only in 8 sectors (the highest inter-annual growth was in production of motor vehicles, that means that this sector belongs to the most dynamic sectors of industrial production in Slovakia). Six sectors

registered inter-annual decrease of commodity production – the biggest decrease in production of chemicals, chemical products and chemical fibres. There is a relatively favourable fact relating to the decrease of production in those sectors, which adversely affect the state of the environment, use big volumes of non-renewable resources, demand large inputs of resources, energy and materials. On the other hand, decrease of production has a direct impact on profits in these sectors, which can lead to reduction of financial sources for environmental measures.

A period of non-conceptual and incomplete transformation is quite clear when we assess the sectors of industrial production from the point of view of **development of economic indicators**. Decrease of the share in GDP production together with reduction of employment without controlled restructuring do not create conditions for a positive change. Growth of labour productivity per an employee, which relates to initial changes in launching new sectors, can be evaluated positively. Economic result is being developed negatively in most of sectors, which leads to payment insolvency, and indebtedness of enterprises. Lack of investment resources does not allow changes in technologies with direct impact on consumption patterns and creates conditions for appearance of new environmental burdens. Changes in material demands of the industrial production sectors have not been registered and the high energy intensity, high specific heat and fuel consumption reflect the adverse situation in technologies as well as inappropriate structure of industry.

Consumption of materials, energy and services directly reflects high demands of industrial production as regards input resources and indirectly expresses its **relation to the environment**. In 1995, the costs of materials, energy and services in the industrial production sectors were SKK 290,309.8 million. In 1998, these costs increased to SKK 378,386.9 million – the growth of costs by 30.3%. The most consuming sectors were the sectors of production of motor vehicles (15.1%), production of foods and beverages (14.9%) and production of metals (14.1%). Production of office equipment and computers and waste recycling accounted for the smallest share in this indicator (0.2 and 0.5% respectively).

The industrial production sectors can be divided into several groups as far as **consumption of materials, energy and services** are concerned. Only one sector – production of office equipment and computers – can be ranked among the sectors with positive development of economic indicators and decrease of demand of materials, energy and services, which are to the biggest extent approaching the conditions of sustainable development – increase of economic results and reduction of demand on input resources. On the contrary, sectors where consumption demands increased despite stagnating production include fur processing and production of fur-based products, clothing production, production of metals and waste recycling.

In 1994-1996, the total consumption of energy gradually increased from 25,689 thousands MWh to 28,877 thousands MWh (growth to 112.7%). In the next years, consumption of energy slightly decreased to 27,850 thousands MWh (1999). In the monitored period, except for 1996, there was a reduction of consumption of electric energy in industrial production to 99.4% level. This relatively slight reduction demonstrates that the energy intensity of production processes is still approximately on the same level during the whole monitored period. The share of industrial production in the total consumption of electric energy was 34.18% in 1997. The **energy and resource intensity of industrial production** as a whole is still relatively high and was not substantially decreased which has an adverse impact on the environment.

A modest **growth of fuel consumption** was registered in industrial sectors in 1995 (except for gasolines), which directly relates to growth of industrial production in this year. On the contrary, in 1996, there was a decrease of solid fuel consumption, which has a direct impact on reduction of environmental pollution caused by emissions from combustion processes. On the other hand, consumption of liquid fuels and natural gas significantly increased. In the near future it is possible to expect further reduction of solid fuel consumption, which relates to the shift to production technologies based on more ecological fuels, e.g. natural gas.

In 1994, organisations of industrial production produced totally 31.9 thousands tonnes of **emissions of solid pollutants** and their share in total emissions from stationary sources was 36.5%. In 1998, there was a decrease of solid emissions to 18.7 thousands tonnes, while the share in emissions decreased to 34.1%. The total production of solid emissions dropped during 4 years to 58.6%. The biggest decrease was registered in the sectors of chemical industry (to 20%). On the contrary, iron and steel production and processing permanently accounts for the highest share in solid emissions.

In 1994, industrial organisations produced totally 85.0 thousands tonnes of **SO<sub>2</sub> emissions** (36.1% of the total production in Slovakia), while in 1998 it was 68.6 thousands tonnes of SO<sub>2</sub> emissions (38.9%). Although the emission production decreased during 4 years to 80.7%, the share of industrial production in the total SO<sub>2</sub> emissions from stationary sources increased. The largest producers of SO<sub>2</sub> emissions are production of coke, refined oil products, iron and steel production and processing. On the contrary, production of SO<sub>2</sub> emissions in chemical industry is considerably decreasing. The data analysis shows that the industrial production is the largest producer of SO<sub>2</sub> emissions in the national economy of the Slovak Republic.

The total production of **NO<sub>x</sub> emissions** in the industrial sector in 1994 was 60 thousands tonnes of emissions (49.8% of the total emissions in Slovakia), in 1998 it was 39.9 thousands tonnes of NO<sub>x</sub> emissions (47.8%). The biggest volumes of NO<sub>x</sub> emissions were produced in the iron and steel production and processing and in the chemical industry. Unfavourable development of situation is in production of non-metal and mineral products.

The industrial production accounts for almost 100% of **emissions of heavy metals** (cadmium, mercury, arsenic and lead) from all stationary sources. As regards emissions of cadmium and arsenic the biggest producer of emissions was production of non-metal mineral products, recently also the iron and steel processing and production, which was also the biggest producer of emissions of mercury and lead.

In the area of **industrial waste water discharges** there was a growth of their production in 1998, when compared to 1997, up to 120.4% level. The total volume of treated waste water decreased to 97.7% and the volume of untreated waste water increased to 153.3%. Concerning the relation of industrial production to the environment there is a negative development of increasing volume of untreated waste water. This fact demonstrates the situation in which the industrial production is. Lack of financial sources, reduction of production and growth of indebtedness of organisations lead also to reduction of expenditures for environmental technologies and increase of environmental burdens.

**Total extractions of groundwater** for industrial purposes were in the 1994-1996 period reduced to 80.2%. Extractions for industries were decreasing more rapidly than the total groundwater extractions. Sectors, where production processes directly

depend on water consumption, include food industry and production of beverages. Other sectors of industrial production are more or less dependent on quantity of water which they extract mainly from surface water resources. In the 1991-1994 period there was a decrease of use of surface water, however since 1995 there have been a modest growth in use of water.

In 1994-1998, the **decrease of agricultural soil was slowing down** gradually for purposes of industrial production, both in relative and absolute figures. This positive development is due to efforts to utilise industrial premises of existing organisations, which are currently insufficiently used, and gradual slowing-down of construction of new industrial premises. This is caused by lack of investments for new construction, growth of prices of agricultural land and more efficient protection of the soil within the environmental law.

The industry produced 3,406.7 thousands tonnes of **wastes** in 1998. Of this amount, there were 2,169.3 thousands tonnes (63.7%) of special (non-hazardous) wastes and 1,237.4 thousands tonnes (36.3%) of hazardous wastes. Sectors of industrial production were the second biggest producer of special wastes and the biggest producer of hazardous wastes.

The industrial production still plays the most important role in the area of air pollution despite some taken measures in large enterprises and decline of production. There is a negative development of impacts on water quality with increase of amount of untreated water and also with increase of amount of some pollutants. The indicator of decrease of agricultural land was developing positively.

On the basis of the overall analysis of industrial development it is possible to consider that the registered positive changes are not only due to conscious and conceptual regulation of development in the sector, but mainly due to the recession in production. **Deep under-capitalisation** at the same time allows to expect further adverse changes caused by lack of financial sources for purchase of technologies and by insufficient assessment of developmental projects in particular from the point of view of consumption of energy and impacts on the environment. Assessment of the internal structure of industry shows that **arrival of so called environmental sectors**, which are growing in the industrially developed countries, is almost absent in the Slovak economy (despite opportunities in the restructuring of machinery production).

### 3.4.8.5 Extraction of mineral resources

**Extraction of mineral resources** is one of the primary industrial sectors which directly use natural resources as basic inputs for other industrial sectors or as commercial commodities. From the point of view of development of this sector after 1990 (data since 1992) there is a relatively balanced share of mining industry in GDP, but employment in this sector is permanently decreasing, which is however in accordance with trends in developed economies of the world.

*Table 23 Selected economic indicators in sector of extraction of mineral resources*

Economic indicator	1992	1993	1994	1995	1996	1997	1998	1999	99/92
Gross production (% of GDP)	0.9	1.0	0.8	0.9	0.9	0.9	0.8	0.9	1.00
Share of employees	1.5	1.2	1.2	1.2	1.1	1.2	1.0	1.0	0.67

(% of total number in Slovakia)									
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Source: Statistical Office of the Slovak Republic, 1994-2000

The basic economic indicators in the sector are not favourable. The **gross production of the sector** in relation to real prices **still decreases** – in the 1992-1998 by 25%. Despite increase of volume of financial sources from sale (including sale abroad) the total profit from production is decreasing, both in absolute figures and in relation to gross production. The increasing volume of financial sources from sale is determined by growing prices. Decreasing profit is a signal of increasing costs in the sector. As regards internal division of the sector to extraction of energy minerals and other minerals, extraction of energy minerals is growing. While the total sale and export of other minerals has stagnated since 1992, sale of energy minerals almost doubled and their export increased more than seven times.

There is an **overall decline** in extraction of selected mineral resources. The decline is not so large in extraction of energy minerals (20-30%), but in the case of ore minerals extraction of antimony, lead, zinc, copper and mercury was stopped, extraction of precious metals was damped and extraction of iron was damped to half output. After 1990, the development in extraction of non-ore minerals is not clear. There was a substantial damping in extraction of some minerals – asbestos, barite, decorating stone, quartz, quartzite, limestone, steatite, perlite, but also magnesite and ceramic clays. On the contrary, there was growth of extraction of some other minerals – foundry sands, kaolin, gypsum and anhydrite, rock salt, basalt and in particular heat-resistant clays. In the case of non-ore minerals, however, the overall volume of extraction has decreased. Keeping records on extraction and consumption of building minerals is problematic, because a large part of them is extracted at non-reserved deposits. There was a large decrease of extraction of brick minerals (approximately by 75%) and reduction of extraction of building stone to 40% level.

Use of mineral reserves in Slovakia has to be assessed in a broader context in relation to the whole fuel-energy industrial sector. **Excessive extraction of natural resources** is only response to excessive level of consumption in the industrially developed part of the world. Regulation and management of processing, distribution, consumption and recycling of resources is very important in this context. The energy policy of the Slovak Republic, which was approved by the Government in 2000, is the starting point for assessment of expected trends. Sustainable use should be based on such a level of mineral extraction, which will not confine access to these resources for future generations, which is rather unrealistic in the case of non-renewable resources. Therefore utilisation of renewable resources, which have a big potential in Slovakia (in particular biomass, geothermal energy, hydropower, solar energy and wind energy), should be preferred. The non-renewable resources should be utilised so as to ensure their **long-term lifetime** and to minimise negative impacts on the environment. In practice, this also means assessment of resource utilisation from the point of view of extraction inputs and outputs. Inputs are determined by the exploitation of individual minerals (long-term reserves with regard to their current level of utilisation) and by their structure (representation of primary non-renewable resources and renewable resources), outputs are represented by accompanying “effects” of resource utilisation with regard to environmental pollution (in particular by emissions of SO<sub>2</sub>, NO<sub>x</sub> and CO<sub>2</sub>).

The **previous development** of the Slovak economy in the context of resource use **cannot be assess as sustainable**. It is based on the idea of permanent economic growth, which is accompanied by large consumption of primary resources and high energy intensity. The present structure of industrial production is unsatisfactory –

dominating production, which demands huge amounts of energy and resources (iron metallurgy, metallurgy of coloured metals, production of aluminium, chemical industry). And yet domestic energy and ore minerals are small and production is mostly based on import of resources. In the case of **energy minerals** it is from the long-term point of view appropriate to concentrate on decrease of consumption and extraction of coal (to stop extraction of lignite, to damp and gradually stop extraction of brown coal, to confine import of mainly brown coal). At the same it is appropriate to increase importance and proportion of natural gas (reconnaissance and verification of domestic reserves, import diversification, gasification of the economy and infrastructure), to substitute “biological” fuels for oil and in particular to substantially increase importance of untraditional energy resources – in particular renewable resources. These trends have been taken into account also in the energy policy.

Reserves of **ore minerals** are small in relation to consumption. Major part of important resources was exhausted during the golden age of mining in the Upper Hungary (the 13<sup>th</sup> – 18<sup>th</sup> centuries). At present there are minimal conditions for major extraction of ore minerals on our territory – it is necessary to re-assess extraction of iron and iron ore, extraction of small amounts of gold bearing ores. The **non-ore minerals** can be from the point of view of realistically usable reserves divided to resources, which are perspective also for export or for development of industry (steatite, magnesite, diatomite, rock salt, mica), the other resources suitable for domestic consumption and to insufficient resources. Slovakia is rather rich as regards the **building minerals** – reserves of exclusive deposits are however sufficient only to cover domestic consumption. In the case of major extraction the environmental impacts would be unbearable.

**Sustainable use of mineral reserves** in Slovakia should be based on gradual substitution of renewable resources (including substantial increase of use of domestic renewable resources) for non-renewable resources. In the case of mineral resources it means gradual abandoning of extraction of solid energy minerals (brown coal and lignite), increasing the share of use of biological energy minerals and diversification of import of oil and natural gas, stopping extraction of ore resources, re-assessment of extraction and differentiated approach to use of non-ore and building resources (e.g. reducing extraction of limestone, dolomites, building stone and gravel-sands and possible increase of extraction of steatite, mica, etc. for export). Increase of use of geothermal energy and other alternative energy minerals is expected. These changes in use of mineral minerals have to be in accordance with structural changes in energy and industry.

#### **3.4.8.6 Energy**

Slovakia ranks among countries, which are in traditional meaning poor in its own energy resources, which provide only 11% of the total supply of primary energy resources. It means that Slovakia imports 89% of energy resources, primarily from the Russian Federation.

In 1995, the final energy consumption was covered by coal (35% of total energy), gas (32%), oil (18%) and electric energy (14%). In 1990-1999, the overall energy intensity in Slovakia has stabilised. Despite this fact, however, the energy intensity when calculated per purchase power parity is almost three times higher than the average in the EU countries. Insufficient reduction of energy intensity and **ineffective use of energy** are a permanent problem of the Slovak economy.

Table 24 Development of selected indicators of the Slovak energy sector

	Unit	1993	1994	1995	1996	1997	1998	1999
Share of production and distribution of electricity, gas and heat in GDP	% of GDP	3.6	3.5	4.2	4	3.6	2.5	-
Primary energy resources	PJ	733	718	742	754	1,325	1,289	1,326
Final energy consumption	PJ	549	537	542	552	499	499	516
Primary energy resources / GDP95	PJ/SKK billion	1.59	1.49	1.43	1.37	2.26	2.10	2.03
Primary energy resources / GDPppp (IEA)	toe/00090	0.59	0.55	0.53	0.51	0.47	-	-

Source: Ministry of Economy of the Slovak Republic, 2000

The energy system of Slovakia is a sub-system of the world system, which is characterised by a permanent growth of production and consumption of energy, changes in structure of fuel resources and disparities among regions in production and consumption of energy resources. In the past, Slovakia as a part of Czechoslovakia belonged to a closed and partially isolated Eastern European energy system. At present, our energy system is being connected to the Western European system. However, Slovakia is still strongly **dependent on import** of oil, natural gas and uranium from Russia and coal from neighbouring countries. At the same time it is a transiting country for transfer of natural gas to the Western European countries. In the area of production of electricity Slovakia is self-sufficient. Taking into account the inter-linkages among the energy systems, its development still requires a close co-operation with neighbouring countries and connection to the Western European countries.

**Transformation of the Slovak economy** was connected to decrease of production and subsequently to decrease of energy consumption. In 1990-1993, GDP dropped by 20% and the total energy consumption by 27%. Later, the consumption of energy started to grow together with growth of the economic product. The initial reduction in energy consumption was due to reduction of GDP and not due to rationalising measures. Untransparent and non-market prices and monopolistic structure of the economy led to lack of motivating mechanisms oriented to introduction of rationalising measures and increasing the effectiveness of energy use. The energy policy suggests decrease of energy intensity in 2010 by ca 42%, when compared to 1990.

Low prices (when compared to prices in OECD countries, the prices of electric energy in households of the Central and Eastern Europe are approximately four times lower) are considered to be the reason of ineffective energy management. The prices of energy in the EU countries for the industrial sector are lower than the prices for inhabitants, while in Slovakia the situation is opposite.



Table 25 Structure of sources of energy consumption in selected countries in 1994

Energy source	World	Slovakia	Austria	Switzerland	Poland	Hungary
Traditional fuels	-	0.78	3.98	4.74	0.76	1.91
Primary electricity	10.46	22.74	12.92	<b>36.93</b>	0.1	16.2
Gaseous fuels	23.73	31.0	26.84	9.38	8.61	34.1
Liquid fuels	36.01	15.11	43.94	48.23	14.76	29.48
Solid fuels	29.80	30.37	12.33	0.71	75.77	18.31

The **share of industry in energy consumption** (52%) is in Slovakia considerably higher than in the Western European countries (32%), while the share of energy consumption in the sectors of housing (17%) and transport (11%) are considerably under their level. The structure of primary energy supply in Slovakia points out at the heritage from the past. The economy was oriented to use of relatively cheap resources of coal and natural gas. On the contrary, the share of oil is small when compared to the western countries. The overall share of hydrocarbon fuels in 1996 achieved the level of 50%, which is a little bit over the 1990 level (48%). The share of oil does not achieve even a half of the share in the developed countries of the European Union, while the share of natural gas is much higher.

Use of energy is concentrated in particular in large industrial enterprises. The thirty largest firms account for ca 50% of industrial consumption of electricity and the three largest ones (VSŽ, Slovalco and Slovnaft consume almost 22%). The large-scale purchasers of electric energy consumed as much as 65% of electricity used in industry in 1996. The energy-intensive industries use bigger share of industrial outputs than in many Western European countries.

In relation to sustainable development the issue of **renewable energy resources** is getting on the top of the energy agenda. Estimates of the total potential of renewable and secondary energy resources as well as its technologically usable part are different according to individual sources and ranges from 39.2 PJ/year to 143.8 PJ/year. The energy policy estimates the technologically usable potential of renewable resources in Slovakia at 100.4 PJ/year, while biomass is the most important renewable resource. The estimation of use of renewable resources in 1994 ranges from 11.4 to 25 PJ/year. According to the energy policy the renewable resources at present cover only 3.3% of the total energy consumption and are used only to 25% of their technologically usable potential.

Since 1995, the **primary energy resources** in the Slovak Republic have covered only 10% of the needs (without inclusion of use of renewable resources), the remaining 90% are covered by import. The low level of source diversification worsens the dependence on import, when almost all amount of imported oil, natural gas and nuclear fuel (ca 65% of primary resources needed) comes from one country – the Russian Federation. Remaining 25% come in the form of coal from the Czech Republic, Poland and Ukraine. Utilisation of potential of renewable energy resources (except for exploitation of hydropower potential) is at present in Slovakia in the experimental stage.

Although the **structure of production facilities** and production of electric energy in Slovakia are comparable to the structure in the developed world economies, relatively high rate of concentration of production in one production centre is a certain

disadvantage. Approximately 44% of electric energy are produced in nuclear power plants in Jaslovské Bohunice (4x440 MW) and Mochovce (2x440 MW), 18% of electricity are produced in hydropower plants and the rest in thermal power plants. Heat supply in 1995 constituted 252.5 PJ, of that the industrial sector consumed 58.6% and the housing sector 41.4%. The majority of transformation facilities is technologically obsolete, less effective and their operation has adverse impacts on the environment. Two largest thermal power plants in Nováky and Vojany are responsible for 75% of air pollution as regards CO and NO<sub>x</sub> and for 80-90% as regards SO<sub>2</sub> and particulate matter. The energy sector is the largest producer of the mentioned pollutants.

The **energy intensity** expressed in the form of the share of total primary energy consumption in gross domestic product has a permanently decreasing tendency in Slovakia (from 1.59 in 1993 to 1.14 PJ/SKK billion in 1998). However, it is still much higher than the average in the EU member countries – the reasons are first of all low labour productivity, high share of industry in GDP and its unfavourable structure (high share of energy intensive sectors). Slow-down of GDP growth in recent years was accompanied by a modest decrease of consumption of primary energy resources, decrease of final energy consumption and electricity consumption. The consumption of primary energy resources per capita (140 GJ/inhabitant) is in Slovakia at the level of ca 85% of the average in the EU member countries.

Dominating feature of the Slovak energy sector from the point of view of consumption is **dominance of industry** in consumption of all kinds of energy and relatively low consumption at the side of inhabitants. The energy prices do not reflect real costs and are under-estimated. Prices of energy are negatively influenced by non-market policy of the state, monopolistic structure of the energy sector, untransparent pricing mechanism. This hampers rationalisation and increase of effectiveness in energy consumption. Yet the energy savings are the largest energy resource in Slovakia, similar to situation in other countries. Due to obsolete production technologies, insufficient insulation of buildings and heat distributions there are large losses of produced energy. Big and almost unused potential of energy savings is in increase of energy efficiency in industry and households. According to realistic estimates, introduction of saving measures in industry could lead to 30% saving of consumed energy and improvement of insulation of buildings could save 30% of heat.

The current state of the Slovak energy sector **is not in accordance with principles of sustainable development**. The energy system of Slovakia has been built on the basis of imported non-renewable resources which cover as much as 89% of requirements for the primary energy resources. Moreover, import of the most important energy resources is not diversified and is covered mostly by supplies from the Russian Federation. The domestic reserves of energy resources are small and new quantitatively relevant deposits are not expected to be found. Use of renewable energy resources is small and covers only 3.3% of consumption of primary energy resources.

The **adverse environmental impact of the energy production** has been big up till now, in particular as far as impacts on air are concerned. In 1998, power plants and heat plants accounted for 45% of total SO<sub>2</sub> emissions and 35% of total NO<sub>x</sub> emissions. Combustion of fossil fuels (in all sectors of the national economy including transport) causes 94% of CO<sub>2</sub> emissions in Slovakia. There is a positive trend of decrease of emissions of all pollutants to air due to measures taken to improve environmental performance of production (especially in thermal power plants). Decommissioning and liquidation of nuclear power plants and disposal of radioactive

waste will be a huge environmental and economic problem. The energy specialists estimate costs of this process minimally at SKK 110 billion.

The Energy Policy of the Slovak Republic as a strategic document adopted by the Government in January 2000 brings **opportunities to change** the current state and orientation of the Slovak energy sector to the trajectory of sustainable development. The document provides a brief analysis of the current state of energy sector in Slovakia, outlines its basic development perspectives and tries to orient the energy sector towards compliance with decisive criteria, which are important also for sustainable development in the sector. They include economic effectiveness, creation of conditions for market liberalisation within the trans-European context and environmental acceptability. Renewable resources of energy and energy savings were given more attention in the energy policy than in previous documents.

Perspective accession into the European Union and relating economic and legislative measures are at present a **strong stimulus** for achievement of sustainable development. Lack of domestic non-renewable resources of energy and high potential of savings can also be a stimulus for application of principles of sustainable development in the energy sector. Risks and limits are mainly in high investment demands of programmes aimed at use of renewable resources and some energy savings programmes. Transition from the current unsustainable state and development of the Slovak energy sector to sustainable development will be a long-term process requiring large structural changes in the national economy, in the whole energy sector starting from production, through transformation to the final consumption. These **structural changes** are not possible without changes in thinking and acting of people managing the society and without changes in consumer behaviour of inhabitants.

**Basic measures and steps** to achieve sustainable development of the Slovak energy sector should in accordance with the international commitments, the Programme Declaration of the Government and the energy policy concentrate on diversification of fuel import and reduction of dependence on their import, decentralisation of electricity production, de-monopolisation of the energy sector, decrease of energy intensity of the economy, technological modernisation of the sector, implementation of saving programmes, putting the prices on realistic level, support of use of renewable and secondary resources, introduction of new legislative and taxation measures.

#### **3.4.8.7 Building industry**

The Slovak building industry underwent two **important changes** in this decade. The first one was the process of transformation of building organisations, which has been completed. The focus of de-nationalised building sector is on small and medium enterprises, while capacities of large companies, in particular in the area of transport and infrastructure construction, have been maintained. The second change was in structure and especially extent of construction works after 1990. Investment construction and the building industry considerably declined.

Analysis of development of building production in 1990-1999 shows that the building industry belongs to sectors, which were the most sensitive to the national economic policy. Demand for construction works considerably lagged behind supply capacities of building organisations. **Structure and required construction technologies were changing** but the building organisations were able to adapt flexibly. Positive impacts of the building sector on the national economy were not seen because of lack of sufficient demand for construction works in both the public and the private sectors.

Multiplication effect of the building sector in relation to other industrial sectors did not happen.

**As far as structure of construction works is concerned**, housing construction and construction of educational, medical and cultural facilities considerably lagged behind. **Share of non-housing constructions has increased** importantly – financial institutions, religious constructions which were not built for 40 years. Production decline affected mostly the large construction companies with a high standard of labour and production organisation and which are oriented to large investments with impacts on the whole economy. **Small enterprises and self-employed people** were affected to the smallest extent, they orient their production programme to small construction, repair and maintenance and managed to adapt to adverse conditions of the construction market.

Such a development of building production was accompanied by important changes in building technologies and by increasing **quality of construction works**. The prefabricated panels almost ceased to be used, construction of prefabricated skeleton systems has been limited and tradition construction based on brick, porous concrete and other silicate materials and systems started to prevail. Application of these materials, however, led to increase of prices. Conditions to introduce on market quality construction materials have become stricter and comply with conditions in the EU countries. A **certificate of quality system** is a basic pre-condition for the enterprises to be successful both in domestic and international competitions.

Export of building capacities especially in the recent period stagnates, moreover, presence of the Slovak building companies on foreign markets is not sufficient. Decrease of **export of construction works** was caused mainly by lack of financial sources at foreign investors on the Eastern markets and markets in transition as well as by reduction of export of construction works to economically developed countries. The competitiveness of the Slovak building sector plays its role – increasing the competitiveness showed to be one of possibilities how to utilise available construction capacities and improve employment. In this area improvement of quality, creation of appropriate environment for all partners on the construction market and improvement of professional training and education have to play the decisive role.

The **sharp decline of building production** after 1990 led to decrease of the share of the building sector in GDP and employment. While in 1990, the share of the building sector in GDP was 9.2%, in 1994 this figure was only 4.6%. The share of the building sector in total employment dropped during the same period from 10.2% to 7.6%. In the absolute number of employees this means reduction of the number of employees by almost 100 thousand in 1990-1994.

There was a decline of building production from SKK 113.7 billion in 1990 to SKK 52.9 billion in 1994 (in 1995 constant prices) which is a decrease by 53.5%. This decrease was especially due to **reduction of the share of building investments** in total investments. While in 1990 this share was 53.7%, in 1994 it was only 44.0%. It was manifested in change of structure of building production according to investment plan, in particular in new construction activities, including modernisation and re-constructions. After the sharp decline of construction activities in 1991-1994 there was a modest increase of domestic production in 1995 (index 102.8%) and increase of construction works abroad.

**Large infrastructure projects** financed by public sources and foreign loans in 1996-1997 led to growth of domestic production and to increase of housing construction. In 1997, the share of the building sector in GDP increased to the level of 5.3%, which means a growth index of 112.8%, when compared to 1996. It can be assessed

positively that this growth was achieved through growth of labour productivity (index 105.1), when the annual average number of employees in 1997, when compared to 1996, did not change. From the point of view of structure of building production according to ownership a rapid growth of the private sector can be mentioned. In 1997, the private sector accounted for more than 82% of the total production. According to the investment orientation, there was a relatively small share of repairs, maintenance and other works, while development of the share of construction, modernisation and re-constructions was growing and was affected by infrastructure projects (motorways) and energy constructions. On the contrary, there was a decrease in export of construction works abroad, especially to states of the former Soviet Union and Germany.

In 1998, efficiency of the building industry again decreased – the share in GDP was reduced to 4.9%. The share in employment remained unchanged (7.4%), it was however maintained at the expenses of labour productivity. As compared to 1997, the volume of construction works decreased by 3.5% and there was a permanent decrease of building production abroad, when the real amount of production abroad fell by 27.7%. Decrease of demand for construction works caused that construction at the end of 1998 accounted for 10.1% of the total unemployment.

The **unfavourable development was continuing** also in 1999. In the first half of the year, the building production dropped by 27.6% in comparison with the same period of the previous year and the number of employees was reduced by 6.7%. There is still tendency of decrease of building production abroad.

The main objective of **industry of building materials** in 1990-1999 was to ensure production of relevant building materials and products for building production, to place a part of the production on foreign markets and so to maintain effectiveness of its own production and to improve the foreign payment balance of Slovakia.

Economic and social development in the industry of building materials was similar to other sectors. It was affected especially by reduced level of investment in the society. The industry of building materials is at present stabilised, its effectiveness is and will be dependent on increase of building production.

### 3.4.8.8 Transport

The economic reform carried out in 1990-1999 considerably affected the structure and developmental trends in the transport sector of Slovakia. There was a significant shift towards increase of passenger and freight road transport, while the economic reform and policy considerably disadvantaged the rail transport, urban public transport and other form of public transportation. This shift towards **individualisation of transport and advantaging of road transport** leads to a larger burden to the environment, including residential areas, caused by noise and pollutant emissions. The 1990-1999 period can be characterised as a shift towards environmentally less proper modes of transport.

In 1998, the transport accounted for 6.1% of GDP. In comparison with 1997 this share is higher by 0.3% and similar to 1993.

*Table 26 Share of transport in GDP (%)*

	1993	1994	1995	1996	1997	1998	1999
% of GDP	6.1	6.8	6.2	6.1	5.8	6.1	7.09

Source: Statistical Office of the Slovak Republic

**Density of the road network** in 1998 was 0.361 km/km<sup>2</sup> and is assessed with regard to terrain morphology as sufficient, however, in comparison to the neighbouring countries it is relatively low. Density of the highway network in 1998 was 0.0059 km/km<sup>2</sup>. The highway network, designed in the European routes E65, E75, E58 and E50, is connected to the road systems in the neighbouring countries and is complementary to the main road network in Europe. A 1996 comprehensive project of preparation and implementation of construction specified extent of highway construction till 1998 and defined a date of completion of highway network by 2005. Due to lack of financial sources these objectives were re-considered in 1999 and a new Conception of Highway Infrastructure Development was adopted. 122 km of highways and connecting roads were put to use since February 1996 to November 1998 and the total highway length achieved 288 km. As compared to speed of construction before 1996, during this period the construction speed increased 5 times. In 1998, there were 17,710 km of roads and highways in Slovakia – as compared to 1993 the length of the road network decreased by 155 km, while the total length of highways was increased by 90 km. Of the total planned length of highway network (659.3 km by 2005) 43.7% were in use at the end of 1998.

The **regional dimension** of the transport system of the Slovak Republic is very important from the point of view of its development. It is seen especially in relation of regions to the capital of Bratislava and regional centres. Therefore priority of the state is to enable rapid, safe and quality connection of the Slovak territory to Bratislava and territories of regions to regional centres. Taking into account the fact that state administration authorities, schools, health service institutions and cultural institutions are concentrated in the capital and regional centres, this accessibility is a socially important factor. In the framework of development of the transport system of Slovakia it is necessary to remove inaccessibility and to ensure creation of regional transport.

The decrease in development of the national economy was reflected in changes of transport demands and in subsequent **decrease of outputs in the road and freight transport**. Development appeared only in truck transport due to liberalisation of foreign trade and appearance of new competing activities. There was a decrease of amount of transported goods, average transport distance, number of transported passengers and outputs of passenger transport. Focus of use of public transportation is on commuting to schools and work places. In this area there is growing individual transport by cars. The reason of decrease in public transport is cancellation or limitation of special reduced transport tariffs and reduction of less effective lines.

**Urban public transport** is provided in the cities of Bratislava, Banská Bystrica, Košice, Prešov and Žilina by municipal transport enterprises and in other Slovak cities by the state enterprises of the Slovak Bus Transport. From the point of view of the number of persons transported by the urban public transport enterprises in 1998, decrease of number of transported persons, which started in 1996, continued. The number of persons transported by other enterprises of road public transport was also decreasing.

The **railway transport** ranks among the sectors, which were affected very much by the previous economic system. The railway transport was subordinated to extensive development of the economy. It was primarily used for transport of goods, in particular solid fuels, resources for metallurgical and heavy industries and for investment building. The passenger transport was oriented to transport of persons to work places. Increasing requirements were met by intensification, while even the simple reproduction of basic resources was not ensured. This fact led to **lag of technological basis**, its physical and moral deterioration. This problem became apparent especially in passenger transport and was reflected in a low transport

culture, low speed and unreliability of the railway transport. The railway transport has a high potential to alleviate negative impacts of heavy freight transport. State of transport infrastructure for the railway transport is not satisfactory. In 1998, the length of railway lines was 3,665 km, which is in comparison with 1997 a decrease by 8 km. 1,535 km were electrified (41.9%). Of the total length of railway lines only 8% is proper for the speed of 120 km/h and ca 18% for the speed of 100 km/h. On one third of railway line the speed is reduced due to bad state. Capacities of the railway infrastructure exceeds both current and predicted outputs, its operational state however lags behind the standard of the developed European countries by 15-20 years. The railway speeds achieved on the lines ranking among the AGC international railway lines do not comply with the European parameters. Density of the railway network is 74.6 km/1000 km<sup>2</sup> and this is comparable to the European average. There are 0.69 km of railway lines per 1000 inhabitants. As regards the number transported passengers, the situation is similar to the road transport – in 1998 there was a decrease of passengers by 1,677 thousands. Due to decrease of volume of transport and average transport distance, the transport outputs were also decreasing. Permanent speed limits and insufficient maintenance do not allow even in favourable parts to take the opportunity of the highest speed which is reflected in increased transport expenses and losses of transport markets.

Infrastructure of **combined transport** is created by combined transport terminals, railway lines and connecting roads to terminals. In 1994, Slovakia became a party to the AGTC Agreement (Agreement on Important International Combined Transport Lines and Related Installations). Despite important advantages of combined transport in comparison with road transport its development in Slovakia is still insufficient. Infrastructure for this kind of transport is also developed insufficiently. There is decreasing trend in indicators for this transport mode. From the point of view of future development it will be necessary to update targets, objectives, conceptions and programme of further development of combined transport in Slovakia with regard to its future development in Europe and to connect combined transport in Slovakia to combined transport in Europe.

The basis of **water transport** infrastructure is the Danube waterway with two public ports in the cities of Bratislava and Komárno and with the port for enterprises in Štúrovo. The Váh waterway is another important waterway – the Váh River is also included in the list of European waterways of international importance. Other watercourses are not used for regular navigation for the moment. Water transport is used primarily for transport of goods with introduction of new transportation technologies – containerisation. Passenger transport includes transport of persons on navigable watercourses on the territory of Slovakia. Number of passengers transported by water transport in 1998 was reduced by 1 thousand. As far as transport of goods is concerned, decrease of the total amount of transported goods was continuing. The average transport distance was 1,113.7 km. The decrease of transport outputs was caused by the collapse of the Soviet Union and its markets and also by the war conflict in Yugoslavia. In 1998, the transport on the Danube River was revived. Slovakia has sufficient transport capacity to renew transport on the Danube waterway including vessels on a good technical level and ports with transshipment technology.

34 operators of **air transport** enlisted in the civil aviation register owned 352 civil aeroplanes in 1998. The airports in Bratislava and Košice are strategic public airports for international transport. The airports Poprad/Tatry, Sliač, Piešťany, Žilina and Trenčín are regional public airports for international transport. There was a growing trend in the number of transported passengers. The number of transported passengers was in 1998 higher by 51,570 as compared to 1997. As far as

transported goods are concerned, there was a further decrease in 1998 by 223 tonnes in comparison with 1997.

Transport belongs to the most important economic activities with **serious impacts on the environment** and human health. Scale of impacts depends on transport mode, its energy intensity, type of used fuels and development of basic indicators in transport. Air emissions of pollutants cause the most negative impacts of transport on the environment. This problem is especially serious in urban areas, where the road transport is concentrated. The other negative impacts are caused by noise, waste generation, energy consumption, land take, damaging the habitats of plants and animals. Accidents are also an important negative factor relating to transport which affects human health.

Slovakia carries out regular, annual inventory of production of **emissions of pollutants** from road, railway, water and air transport. The first inventory was carried out in 1993 with a starting year of 1990. Data on emissions from transport together with data on emissions from stationary pollution sources constitute a starting point for evaluation of compliance with commitments resulting for Slovakia from international conventions in the area of air protection, to which Slovakia accessed. In the area of transport Slovakia proceeds in accordance with the National Programme of Reduction of CO<sub>2</sub> Emissions from Transport in the Slovak Republic. From the point of view of the share of transport in the total emissions of the reviewed pollutants, ca 35% share of transport in NO<sub>x</sub> and 45% share in CO emissions are important. The share of transport in emissions of greenhouse gases is ca 9%, as regards VOC the share is 36%. The road transport plays the most important role in total emission generation in transport. The share of other modes of transport in individual pollutants is ca 9%. Individual passenger transport plays the decisive role in emissions from road transport – in 1998, the share for individual pollutants was as follows: CO: 89.3%, CO<sub>2</sub>: 52.6%, NO<sub>x</sub>: 45.3%, VOC: 83.1%, SO<sub>2</sub>: 19.5%, particulate matter: 17.8%, while in the case of freight transport the share was 9.5% for CO, 38.2% for CO<sub>2</sub>, 39.6% for NO<sub>x</sub>, 15.2% for VOC, 64.3% for SO<sub>2</sub> and 71.8% for particulate matter.

From the point of view of developmental trends of individual pollutants there was only modest increase of controlled pollutants, despite considerable growth of fuel consumption in road transport and growth of number of personal motor vehicles. Rapid introduction of technologically modern personal motor vehicles with three-way catalysts and with lower fuel consumption had a positive impact on production of emissions from transport. Stricter controls of technical state of motor vehicles and introduction of emission controls of motor vehicles was also a positive aspect. Undesired speed of development of individual motorised transport connected to considerable increase of fuel consumption adversely affected the overall production of emissions from transport.

In 1998, the transport and communication sector produced totally 58,679.1 tonnes of special and hazardous **wastes**. As compared to the total waste generation in Slovakia (9.1 million tonnes) it is 0.9% and therefore transport does not rank among the important waste producers. Of that volume there were 32,157.7 tonnes of special wastes and 26,521.9 tonnes of hazardous wastes. Hazardous waste management (accumulators, waste oils, etc.) is especially problematic.

Transport plays a special role both in national environmental assessments and in relation to social aspects. On one hand social factors constitute a driving force of developmental trends in transport (e.g. structure of consumption in households, use of leisure time, level of disposable incomes, socio-demographic characteristics) and plays an important role in life of inhabitants from the point of view of transport to



schools, works and leisure time activities, on the other hand transport contributes to pollution of the environment, accidents and many other caused negative social effects. Adverse trends in transport in Slovakia include e.g. preferring and considerable growth of automobile transport (mainly in cities and on main routes), decrease of public transport, transfer of goods transport from railways to roads.

#### 3.4.8.9 Tourism

The economic reform, carried out in 1990-1999, should have created favourable conditions for development of tourism in Slovakia. At this time tourism had a chance to become one of the main sectors of the Slovak economy, as it is for example in neighbouring Austria. Tourism, like other sectors, got to crisis mainly due to low competitiveness of provided services, which is manifested in its **insufficient development and decrease of incomes** from this sector. Incomes from active foreign tourism (except for 1994) are decreasing, while the average inter-annual decrease is approximately 7%. In 1998, the incomes were SKK 17,231 million and in comparison to 1994 they dropped by almost 20%. This adverse development was affected in particular by the fact that Slovakia, as the only state of the Central Europe, does not have a strategy aimed at increase of the share of Slovakia as a target country of tourism on the European and the world tourism markets. For the majority of potential visitors Slovakia is an unknown country. Despite creation of the Slovak Tourism Agency in 1995, which is to advertise Slovakia as a tourism country, the incomes from active foreign tourism are still decreasing.

Expenses for passive foreign tourism have a negative impact on development of balance of payment of the state. Since 1994, there has been an uneven, prevailingly growing trend of these expenses. In 1998, they achieved a value of SKK 16,727 million with a growth by ca 55%, as compared to 1993. **Growth of expenses for passive foreign tourism** was influenced in particular by diversity of offers by travel agencies, of which 90% devote passive foreign tourism. This orientation is also influenced by the fact that running business in tourism is less risky – there is a permanent demand from the side of the Slovak inhabitants for holiday abroad, reliability of commercial partners and quality of services.

**Decrease of incomes from active foreign tourism** and growth of expenses for passive foreign tourism was manifested in development of tourism balance, balance in services and finally in development of balance of payments in the monitored period. There is a positive fact that the balance of tourism is still active. The balance in 1998 was SKK 504 million, which is in comparison with the most successful year 1994 decrease by 95%. The fact that tourism can significantly contribute to solution of problems relating to development of balance of payments in Slovakia can be documented also by the data from 1994, when incomes from tourism represented ca 30% of all incomes from services.

The unfavourable development of income indicators and balance of tourism is manifested also in the share of foreign currency incomes from tourism in GDP, which ranged from 2.4% to 3.95% in the 1993-1999 period, while the highest share was in 1995 and the lowest one in 1999 – since 1995 this indicator is still decreasing. The share of incomes from active foreign tourism in export ranges from 3.8% to 7.21% and also this indicator shows a decreasing tendency from 1995.

Table 27 Share of foreign currency incomes from tourism in GDP and export of Slovakia

Indicator/Year	1993	1995	1997	1999	1999/1993 change
Share in GDP	3.42%	3.95%	2.76%	2.4%	0.7
Share in export	7.13%	7.21%	6.21%	3.8%	0.53

Comparison of selected economic indicators of tourism development in Slovakia and in selected countries shows that the different countries, unlike Slovakia, achieve a favourable development of indicators of income from active foreign tourism. In Slovakia there is one of the most apparent feature of **unsustainable development of tourism** – more rapid growth of number of visitors than growth of foreign currency incomes from active foreign tourism. As compared to other countries, Slovakia has the most adverse development of tourism despite the fact that Slovakia has much richer natural and partially also cultural potential. Reason of this development is under-appreciation of economic importance of tourism from the side of the state and absence of a clearly defined state policy of tourism development.

Tourism is one of the sectors, which can help to transform the Slovak economy to trajectory of sustainable development. For that Slovakia has all the necessary conditions – natural beauties, human potential, etc.. The current way of functioning of tourism seems to be from the economic point of view very ineffective, which relates mainly to low level of services and low competitiveness of the whole sector. On the other hand Slovakia has a large **opportunity to implement objectives of sustainable development**, since negative impacts of mass development of tourism have not manifested so far. Small-capacity facilities, the domestic capital and relatively low level of foreign indebtedness, when compared to other sectors, prevail in the business area. Support of development of tourism should concentrate mainly on domestic tourism, active foreign tourism and support of domestic small and medium entrepreneurs.

#### 3.4.8.10 Information technologies (quaternary sector)

Development of modern technologies is connected to growth of digital economy and electronic business. Internet and modern information technologies allow to larger extent to digitalise the basic functions of economy and to transfer a growing number of economic activities to digital form. This area of a “cyberspace” is gradually including not only commercial operations but creation of gross domestic product and growth of labour opportunities as well. If proper legal frameworks are created, emerging digital economy has a potential to become an **important factor of growth of the world economy** in the forthcoming century.

**Slovakia ranks** at present **among countries considerably lagging behind** the developed countries of the world in all areas of development of informational society. This is manifested in efficiency and competitiveness of the Slovak economy and in the living standard of inhabitants of Slovakia. Till these days Slovakia has not worked out any official programme of support of development of the informational society in Slovakia.

Development of Internet is an integral part of **growth of digital economy and electronic business**. Internet and modern information technologies allow to larger extent to digitalise the basic functions of the economy and to transfer a growing number of economic activities to digital form. The area of a cyberspace is gradually

including not only commercial operations but creation of gross domestic product and growth of labour opportunities as well.

### 3.4.9 Economic instruments

#### 3.4.9.1 Set of economic instruments

Economic instruments are used to stimulate behaviour of authorities, institutes and also producers, consumers and other subject so that they modify their activities towards sustainable development. One of the principles of sustainable development, which are used in this context, is “polluter pays” principles. All environmental expenditures have to be transposed onto producers and consumers and not onto other segments of the society, other countries or future generations. Prices themselves should express relative scarcity and total value of resources and should contribute to protection of the environment. Such instruments include in particular:

- state budget, municipal budgets, budgets of enterprises and other organisations,
- various forms of tax exemptions, soft loans, subsidies, loans with zero interest rate, etc.,
- forms of negative stimulation, e.g. payments for pollution and use of natural resources,
- taxes,
- appreciation of resources, appreciation of labour, appreciation of products, etc..

As mentioned in the Chapter 8 (programming area C) of Agenda 21, application of economic tools for sustainable development requires: to create an efficient combination of economic, regulatory and self-regulatory methods; to remove those subsidies, which are not in accordance with sustainable development; to re-work out existing structures of economic and fiscal incentives so that they comply with environmental and developmental objectives; to create instruments for control of pollution and for environmentally friendly resource management.

Transition towards sustainable model of economy can be assisted by a set of economic instruments, which have been developed and are tested in a number of countries in order to change orientation of economy and society towards sustainable development. This change of orientation can be carried out in the form of gradual modifications of the current industrial economic system or in the form of creation of an alternative economic system based on principles of sustainable development, which will gradually replace the current economic system. These instruments are:

- **environmental tax reform**, based on internalisation of externalities and introduction of environmental taxes including real costs of consumed resources and energy into product prices, which should lead to reduction of consumption and more effective use of resources and to disadvantaging the input intensive products;
- **introduction of alternative economic indicators** describing the real state of the whole society instead of current use of GDP, use of a basket of economic, social and environmental indicators diversified according to needs of individual regions or states;

- **shifting the stress from labour productivity to resource productivity** (e.g. Amory Lovins' negawatt revolution according to which energy, which is not produced or which is saved, is the cheapest energy);
- environmental and social audit, accounting, investment;
- **creation of local economy networks**, support of local and community economy, non-monetary systems;
- **shifting the priorities to alternative (renewable) energy resources**, e.g. solar energy, transfer of funding from e.g. investments in nuclear power programme to tax exemptions and advantages for alternative energy resources.

Traditional instruments of economic practice, through which the national economy is regulated, include in particular fiscal and monetary policy, financial markets and state funds.

In the process of implementation of sustainable development in relation to these instruments it is necessary to stress that they should lead first of all to a **balanced development of a new economy** oriented towards support of a complex development of human resources – mainly improvement of the life quality.

#### **3.4.9.2 Fiscal (budgetary) policy**

Fiscal policy, taking into account its character, depends not only on economic conditions of the country but on political factors and situation as well. Relevant macroeconomic indicators are influenced by use of instruments of either income or expenditure part of the state budget, state funds and mechanisms of a system of public finances.

The state implements fiscal policy through state budget and budgets of other components of the state administration. The **state budget of the Slovak Republic** as well as the fiscal area in Slovakia are characterised by deficit and by still growing public debt, while its share in GDP also still grows. In 1999 the two deficits were modestly reduced to acceptable level due to adopted stabilising measures. But on the other hand, according to some estimation (IMF), the real amount of deficit in particular of other components of the public administration is higher than the officially published data. The biggest risks for the future are in the funds of social and medical insurance, where the gap between sources and expenses still grows which leads to still increasing deficit. Big risk is also in the state purposive funds. The fiscal policy of the state was for a long time based on **excessive expense** and not on real incomes, which is not favourable from the long-term point of view.

The starting situation of Slovakia in 1993 was difficult, the majority of macroeconomic indicators show a recession of economy. The fiscal policy in 1993-1995 can be assessed as restrictive. In 1993, the state budget had a deficit of SKK 25.3 billion (according to IMF methodology), which was approximately 7.2% of GDP and the total fiscal deficit was SKK 26.4 billion. In this year a so-called double deficit started to be apparent (simultaneous existence of fiscal deficit and deficit of trade balance) which has adverse consequences if it lasts for a longer time. It was manifested mainly in 1996-1998 when the expansive fiscal policy was combined with restrictive monetary policy. Years 1994 and 1995 were years either of fiscal or trade deficits.

In 1996, there was a strong fiscal expansion when the deficit of the state budget achieved an amount of SKK 26 billion and there was also the highest deficit of trade

balance (12.2% of GDP). In 1997, the modest economic growth was funded through deficit by increased indebtedness, restrictive monetary policy and by other administrative interventions (revitalisation, regulation of prices, import surcharge, import certificates) without system solution. The total fiscal deficit was almost SKK 35 billion. In 1998, the expansive policy of the former government culminated – the highest deficit of public finances was achieved (SKK 42.7 billion) and all areas of public finances including municipalities achieved deficits. The total fiscal deficit achieved a value of 6% of GDP and the foreign debt almost USD 12 billion.

Decreasing the **deficit of public finances** through income increase and expenditure reduction was considered to be the key tasks for preparation of the state budget for 1999. At deficit of the state budget for 1999 at the level of SKK 22.1 billion (according to IMF methodology) and at the total deficit of public finances at the level of SKK 35.6 billion, the share of fiscal deficit in GDP was reduced by 1.5% as compared to 1998 (to 4.5%). Growth of deficit of the Social Insurance, Medical Insurance and the National Labour Office up to the level of SKK 9.7 billion was an adverse phenomenon (the prognosis for 2000 is as much as SKK 15 billion).

**Tax incomes** played an increasingly key role within incomes. Decreasing ratio between taxes from income of legal persons and taxes from incomes of physical persons from 3:1 to 0.85:1 was a typical characteristic of tax incomes. This was caused by increase of taxes from income of physical persons and decrease of taxes from income of legal persons. There was a regular growth of incomes from indirect taxes (VAT, excise taxes).

Consolidation of public finances in 1999 was achieved mainly through **recovery measures** – the so-called pocket of measures (in particular increase of import surcharge up to 7%, de-regulation of energy prices, increase of lower rate of VAT). The double deficit was finally considerably reduced. A negative effect is the high unemployment rate, which creates pressures on fiscal incomes (lower tax yields) and expenses (expenses for social system) leading to a repeated growth of deficit of public finances, which could be manifested in 2000 (IMF estimates are as much as 6.9% of GDP).

Preparation of the 2000 budget was for the first time based on incomes and not on expenses, as was the practice in the previous period. The Act on state budget suggested deficit in the amount of SKK 18 billion (2% of GDP), deficit of public finances should be 3% of GDP. The IMF, based on its methodology, suggested deficit of public finances in the amount of SKK 61.5 billion. High debt of the public sector is a considerably negative aspect.

*Table 28 Development of the state budget and public finances*

	1993	1994	1995	1996	1997	1998	1999
Deficit of state budget	-25.3	-4.6	-2.4	-11.1	-17.1	-18.7	-14.8
% of GDP	-6.9%	-1.1%	-0.5%	-1.9%	-2.6%	-2.6%	-1.8%
Deficit of public finances	-26.5	-5.8	2.0	-7.6	-34.8	-42.7	-29.5
% of GDP	-7.2%	-1.3%	0.4%	-1.3%	-5.3%	-6.0%	-3.6%

Source: IMF

The objective of the monetary policy is to ensure the currency and consequently indirect influencing of other macroeconomic indicators. The National Bank of Slovakia in execution of the monetary policy follows the Act on the National Bank of Slovakia, currency act and other relating legal instruments.

External and internal **monetary stability** is very closely inter-connected in the case of a small open economy. In Slovakia the monetary policy achieved a high rate of both external and internal stability as a result of considerably restrictive or neutral monetary policy.

From the very beginning, the National Bank of Slovakia tried to build a stable currency, both the internal (stability of prices on domestic market, low inflation rate) and external (determined by exchange rate of the currency). The independent Slovak currency was established on 8 February 1993 by division of the Czechoslovak currency union. At that time, the economy found itself in a deep recession and the starting position of the Slovak crown was therefore unfavourable. Despite that the National Bank of Slovakia achieved within three years excellent results, while the independence from political power was a very important factor of the **success of the monetary policy**.

In 1993, the National Bank of Slovakia decided about 10% devaluation of the currency and about other measures and gradually shifted from administrative measures to direct instruments of the monetary policy (in particular operations on a free market) and replenished the foreign currency reserves. Common result of the fiscal and monetary policies in 1994-1995 was a high economic growth connected to the lowest inflation rate in the region. The 1996-1998 period was characteristic for disparities of the fiscal and monetary policies. While the budgetary policy was strongly expansive, the monetary policy was considerably restrictive. The National Bank of Slovakia through various measures tried to alleviate pressures of the fiscal policy on monetary stability (high imbalance in public finances influences unsustainability of fixed exchange rate of the currency). The situation was still worsening and was leading to further weakening of the Slovak crown and therefore on 1 October 1998 the National Bank of Slovakia introduced so called floating exchange rate of the Slovak crown (EUR as a referential currency). This led to a considerable devaluation of the Slovak currency.

Year 1999 was a year of recovery of the Slovak economy, while the excessive consumption of the state in previous years was compensated by a restrictive fiscal policy and reduction of imbalance of public finances, which resulted in accelerated growth of unemployment and inflation. Slowness of continuing reforms was manifested in exchange rate of the Slovak crown which was in the first half of the year still decreasing (in May 1999 it was more than SKK 44 for one US dollar. At the end of 1999 the exchange rate was at the level of SKK 42 for a US dollar, while the Slovak crown was strengthening. The Slovak economy was being strengthened mainly by export and therefore the National Bank of Slovakia decided to intervene against the strengthening of the Slovak crown for the first time.

The period after independence of the Slovak Republic was a period of important economic and political changes. The monetary policy created one of the most stable pillars of the Slovak economy (mainly due to its independence) and considerably contributed to its own credibility and to credibility of the state.

### **3.4.9.3 Financial markets**

The **capital market** in Slovakia started to really exist in 1993 and was considerably influenced by the voucher method of privatisation. Its unambiguous contribution was that it had speeded up the building of institutional basis with relatively highly developed technical and organisational level, which is from a number of viewpoints comparable to developed markets. The Stock Centre of the Slovak Republic was established, which fulfils a function of a central depository for booked stocks. Ministry of Finance is a supervisor over the capital market.

In the initial phase the subjects of the Slovak capital market provided first of all space for trading with a great number of shares distributed in the framework of the voucher privatisation. Elements characteristic for standard capital markets started to appear gradually (e.g. emissions of shares of individual companies). Development of a market with collective investment obligations also contributed to market development.

First negative signals resulting mainly from insufficient regulation of the Slovak capital market began to appear (low transparency leading to harming the shareholders of investment funds, minority shareholders in privatised companies, questionable purchase of shares). The capital market started to be influenced politically which finally led to hidden liquidation of independent investment companies.

The current stagnation of the Slovak capital market is characterised by stagnation and failure of its fundamental functions – it does not ensure effective distribution of resources, the intensity of trading decreased considerably. The state supervision over the capital market is in most cases not capable to ensure protection of rights of individual participants in the market.

The official SAF index describes the current critical situation on the capital market. Since 31 October 1994 its value decreased from 201.4 points to less than 100 points (December 1998) and in May 1999 the index achieved its historic minimum (75 points). Anonymous trading dominates over direct trading on the market. The RM System organises the secondary market with shares. The share RMS index (its initial value was set at level of 1,000) dropped to 550 points in 1998, in May 1999 it fell to 450 points.

The **foreign currency market** is a global market. The National Bank of Slovakia and other banking institutions are the largest participants in this market from the point of view of development of the Slovak crown.

In Czechoslovakia the Czechoslovak crown was devaluated several times in the second half of 1990 in order to achieve a small difference between the official exchange rate and the parallel exchange rate of the black market (creating conditions for introduction of internal convertibility of the Slovak crown on 1 January 1991). Introduction of internal convertibility meant unlimited access to foreign currency for all domestic legal persons for commercial purposes and to a limited extent also for inhabitants.

With several exemptions the development of exchange rate of the Slovak crown after 1993 was not dramatic, as compared to neighbouring economies this development was very calm and stable. Since 1993 the exchange rate was assessed as a fixed rate, using a basket of five currencies (USD, DEM, ATS, CHF and FRF). In July 1993, there was a 10% devaluation of the Slovak currency. The basket was simplified and narrowed to two currencies – 60% of DEM and 40% of USD. The exchange rate was determined in this way till 2 October 1998, when the fixed exchange rate of the Slovak crown was cancelled. Since that time there is a floating exchange rate in force based on trading on the currency market. Since 1 January 1999, the National Bank of Slovakia uses EUR as a referential currency, though this fact does not influence the free floating of the Slovak crown.

On the **money market** there are banks, insurance companies and the state. Subject of trading is cash money. The most important indicator of the money market is the BRIBOR indicator, i.e. inter-banking interest rate. If there is lack of money, the interest rates grow and they are decreasing when there is abundance of money. Development of interest rates is being monitored through three representative interest rates: O/N, weekly and three-month interest rates of BRIBOR.

On the money market the state finances its budgetary deficit through emissions of state treasury bills. Special activity of the state in 1996-1998 led to excessive increase of interest rates. Under the absence of a capital market the money market became the only market where the state, enterprises and municipalities could gain financial sources. The expansive fiscal policy of the government was permanently increasing demand of the state for money, which automatically reflected in amount of interest rates (20% or more). Institutional investors logically preferred high yields guaranteed by the state. Private investments were put at the margin of investing because entrepreneurs and legal persons could not borrow under acceptable interest rates conditions. Many enterprises, municipalities and other subjects tried to get money from abroad, which led to growth of the foreign debt (in particular in the private sector). From the long-term point of view the economy could not keep high interest rates and finance double deficit (fiscal and external). At present the interest rates are stabilised and correspond to the inflation. The state played an important role in their reduction (strong restriction of the fiscal policy).

#### **3.4.9.4 State funds**

In the framework of special organisational structures of state funds at the ministries the financial resources are concentrated and re-distributed for implementation of various developmental programmes and investments, support of public works, removal of negative consequences of unfavourable economic and natural factors, etc.. Twelve state purposive funds existed in 2001 in the Slovak Republic:

- State fund of protection and improvement of agricultural land
- State fund of forest improvement
- State water management fund
- State support fund of soil management and food industry
- State fund of market regulation in agriculture
- State fund of the environment
- State health fund
- State fund of corporal culture
- State cultural fund Pro Slovakia
- State fund of road management
- State fund for the decommissioning of nuclear power plants, manipulation with burnt nuclear fuel and nuclear waste management
- State fund for housing development

Taking into account the considerable untransparency of financial management in previous operation of the state funds (audit of the public administration), the state funds will be cancelled in 2002-2003 (except for the State fund for the decommissioning of nuclear power plants, manipulation with burnt nuclear fuel and nuclear waste management) and financing the activities of the current funds will be carried out in the framework of sectoral budgets.



Table 29 Management of state funds in 1993-1998 (SKK thousand)

	1993			1994			1995		
Indicator	Budget	Reality	%	Budget	Reality	%	Budget	Reality	%
Initial state of finances (1 January)	451,812	468,043	103.6	40,675	732,083	1799.8	1,413,453	1,457,979	103.2
Total incomes	3,815,297	3,648,782	95.6	6,687,344	6,467,766	96.7	9,074,713	12,284,474	135.4
Total resources	4,267,109	4,116,825	96.5	6,728,019	7,199,849	107.0	10,488,166	13,742,453	131.0
Total expenses	4,209,122	3,384,744	80.4	6,474,854	5,741,845	88.7	9,486,178	10,316,177	108.7
Final state of finances (31 December)		732,081			1,458,004			3,426,276	
	1996			1997			1998		
Indicator	Budget	Reality	%	Budget	Reality	%	Budget	Reality	%
Initial state of finances (1 January)	11,596,827	3,426,279	214.6	2,111,918	3,935,417	186.3	2,557,205	3,741,129	146.3
Total incomes	19,393,700	17,004,863	87.7	21,696,019	33,238,551	153.2	34,433,954	33,646,637	97.7
Total resources	20,990,527	20,431,142	97.3	23,807,937	37,173,968	156.1	36,991,159	37,387,766	101.1
Total expenses	11,626,447	16,495,725	141.9	14,940,066	33,432,751	223.8	35,429,443	34,823,527	98.3
Final state of finances (31 December)		3,935,417			3,741,217			2,564,239	

Source: Ministry of Finance

### 3.4.9.5 Economic instruments applied in the environment

A set of economic instruments is being used at present in Slovakia, which support the orientation towards sustainable development. They include:

- a) Economic instruments in the area of rational use and protection of quality of water

**Payments for extraction of water from watercourses.** At present the price of surface water is regulated by the Ministry of Finance (R-1/1996 of 12 March 1996) at the level of SKK 1.90 for m<sup>3</sup> including VAT. This price, however, is not strictly applied, in particular to some of large extractors. Despite the growth of price since 1990 from SKK 0.46 for m<sup>3</sup> to SKK 1.90 for m<sup>3</sup>, the price does not cover costs of operation and protection of watercourses.

**Payments for groundwater extractions.** Organisations, which extract more than 15,000 m<sup>3</sup> per year or 1,250 m<sup>3</sup> per month, are obliged to pay SKK 2.0 for 1 m<sup>3</sup> of extracted groundwater to a competent river basin enterprise. Groundwater extractions for public water supplies are subject to payment of SKK 1.0 for 1 m<sup>3</sup> of extracted groundwater and SKK 2.0 are paid by private users on the basis of the Regulation of the Government 235/1996.

**Payments for waste water discharges to surface water.** Payments for waste water discharges to surface water started to be applied as early as 1966. The reason was to stimulate polluters to build waste water treatment plants. Efficiency of this payment in the first years was eliminated by the fact that the basic payment was lower than production costs of operators of waste water treatment plants. To increase stimulating function of this payment a surcharge was introduced, paid from benefit, which was dependent on rate of deterioration of water quality in the watercourse, measured downstream from the waste water discharge point. The Regulation of the Government 35/1979 as amended by the Regulation of the Government 91/1988 is currently in force.

**Water and sewerage payment.** Providing inhabitants and other users with drinking water and sewerage services are provided by water and sewerage companies. The water prices for inhabitants are defined by the Ministry of Finance as regulated prices. Contracted prices are applied for other users of drinking water and sewerage services. Due to growth of prices of drinking water and sewerage services, water supplies were modestly decreasing in 1995-1999, which was under decisive role of fixed costs, however, reflected adversely in increased costs per 1 m<sup>3</sup> of supplied drinking water.

b) Economic instruments applied in air protection

Payments for air pollution, paid by large, medium and also small pollution sources, are the most important instrument in the area of air protection. From the legislative point of view, this instrument is regulated by the Act 311/1992 on air protection against pollutants (the Air act) as amended by further regulations. Since 2000, the new Act 401/1998 has been in force, which replaces the Act 311/1992. These Acts lay down obligation of polluters to pay payments according to the amount and nature of emitted substances, however, only payments for large and medium sources have practical importance. Payments for emissions from large and medium sources of air pollution constitute a tool, which fulfils also environmental function. Incomes from this payment go to the budget of the State Environmental Fund. Two categories of pollutants are subject to payment: main pollutants (emissions of particulate matter, sulphur dioxide, nitrogen oxides and carbon oxide) and other pollutants (ca 150) divided into 4 classes according to toxicity level. Since 2000, in line with the new Act 401/1998, a new amount of the payment was laid down corresponding to the double of current payments, with annual increase of 20%.

c) Economic instruments in waste management

**Local payments** – (for waste collection). Municipalities are responsible for payments for collection and disposal of municipal wastes in accordance with the Act 544/1990 on local payments as amended by further regulations. Therefore they depend on concrete situation in a given municipality. Firms ensuring waste collection and disposal operate on the commercial basis, which are owned mostly by municipalities, which usually subsidise their activity. Principally, their costs should be fully covered. Payments are not unified and their amount is differentiated depending on collection and disposal costs, emission payments (payments for disposal of wastes at landfills), paid to the State Environmental Fund, and potential subsidies from municipal

budgets, which are still more and more rare. Taking into account the overall inflation, growth of transport costs, etc., gradual growth of these payments can be expected.

**Payments for disposal of wastes at landfills and sedimentation basins.** Payments for disposal of waste at landfills and sedimentation basins have a character of emission payments. Collection of this payment is regulated by the Act 327/1996. It is paid by waste producer to operators of landfills and sedimentation basins which provide a part of this payment to municipal budgets. The State Environmental Fund receives 50% of payment for disposal of waste at sedimentation basin.

d) Deposit schemes

Most of experts consider the existing deposit scheme for beverage packages to be standard and effective.

e) Environment related taxes

**Hydrocarbon fuels and oil tax.** This tax is regulated by the Act 316/1993 as amended by further regulations. The Act regulating this tax is amended at least once a year in order to reflect increase of the tax rates. The last modification (1 January 2000, the Act 338/1999) laid down the following rates: 16,500 SKK/t for mineral oils, 14,600 SKK/t for heating oils and 15,400 SKK/t for gasoline. The tax goes to the state budget. This tax is the most appropriate tax to take first steps towards environmentally oriented tax reform, based on energy taxes.

**Road tax.** Only road motor vehicles used for commercial purposes are subject to this tax. Incomes from this tax are not oriented to the environment.

**Tax rate differentiation.** Tax rate differentiation due to environmental protection has been present in almost all taxes in the Slovak Republic. Lower value added tax rate is applied to products from recycled paper, environmentally friendly fuels, some ecological equipment (solar collectors, small waste water treatment plants, equipment for environmental monitoring, etc.). Tax from income of legal persons can be reduced or exempted for a certain period in the case of incomes from operation of legally explicitly mentioned environment-oriented services (recovery and recycling equipment, facilities producing energy from renewable energy sources, facilities for bio-degradation, liquidation of toxic waste, etc.). Real estate tax, which goes to municipal budgets, can also be exempted, postponed or reduced under certain circumstances. Tax from transfer of real estate ownership includes environmentally stimulating provisions.

The table 30 involves incomes from the most important economic instruments in the area of the environment during recent seven years.

*Table 30 Incomes according to selected economic instruments (SKK million)*

Economic instrument	Incom e ca	1993	1994	1995	1996	1997	1998	1999
Pollution payments								
Payments for air pollution	SFZP	238	360	388	412	392	395	303
Payments for waste water discharges	SFZP	292	222	206	234	195	215	198
Payments for waste disposal	SFZP	19	53	148	220	174	174	102
Payments for use of natural resources								

Payments for groundwater extraction	SFZP	21	19	17	13	4,6	6.1	792*
Payments for groundwater extraction	SVF	-	-	-	129.5	305.7	390.3	-
Payments for surface water extraction	PP	884	864	893	915	965	1,061	896
Payment for water from public water supplies	VaK	1,916	2,159	2,207	2,352	2,674	2,960	2,990
Payments for agricultural land take	SFOZ	-	138	248	567	823	538	767
Payments for forest land take	SFZL	-	18	48	125	33	46	18
Payments for extracted minerals	SR	72	98	174	130	138	114	127

Source: Ministry of the Environment, Ministry of Soil Management.

*PP – river basin enterprises; VaK – water and sewerage companies; SVF- State Water Management Fund; SFZL - State fund of forest improvement; SR – state budget; SFOZ- State fund of protection and improvement of agricultural land; SFZP – State Environmental Fund*

*\*back payments for groundwater extraction during previous years enforced judicially*

Taking into account the situation in the Slovak economy, considerable tension in the state budget, the state purposive environmentally oriented funds, in particular the State environmental fund, State fund of protection and improvement of agricultural land, State fund of forest improvement and State water management fund, **still play an indispensable role in funding of environmental management measures** in this period. Through subsidies from these funds the most important environmental problems are being solved, in particular in the public sector. Environmental funds constitute a tool of re-distribution of public funds received from economic instruments of environmental protection, i.e. environmental payments. Of the environmental funds, the largest sources are in the State Environmental Fund. The main source of their incomes is ensured by economic instruments of environmental policy, i.e. emission taxes or payments, user charges, product taxes and penalties. In the sectors of air protection and water protection the penalties are decreasing, while in the nature protection sector there is growing tendency in penalties (with considerable exemption in 1996). Development of incomes from penalties showed a modestly growing tendency that was disconnected after cancellation of independent district and sub-district environmental authorities in 1996 together with decrease of incomes in the next year by ca SKK 120 million. Subsidies from the state budget to the State Environmental Fund decreased from SKK 928 million in 1992 to SKK 150 million in 1998. Conditions for establishment of the basic capital of the revolving part of the State Environmental Fund were not created. Sources of the State Environmental Fund go mainly to waste water treatment plants, sewerage systems, water supply, air protection, waste management and to less extent to protection. Monitoring of the use of funding according to purpose of use shows that the State Environmental Fund provides more than 95% of its sources to investment measures for the public sector and most of sources went to municipalities. On the contrary to other state funds, incomes of this funds are constituted first of all by payments (more than 80%), which cover one tenth of required sources.

### 3.4.9.6 Structural instruments (structural funds)

The EU structural funds constitute an important tool of policy in the area of building and strengthening the social and economic cohesion of the EU and at present they became an important tool in the EU associated countries. The pre-accession funds PHARE 2000, SAPARD and ISPA are an important mobilising tool for 10 candidate countries applying for membership in the European Union for the 2000-2006 period. The European Union allocated annually for all candidate countries EUR 1.5 billion for PHARE, EUR 1 billion for ISPA and EUR 0.5 billion for SAPARD. They are aimed at helping to achieve full harmonisation of the law with *acquis communautaire* and Accession partnership and in accordance with the National Programmes for Adoption of *Acquis*.

**Proportions from these funds for individual countries, including Slovakia, are decided by the European Commission** on the basis of criteria, such as area, number of inhabitants, GDP per capita but also on the basis of capacity of a country to absorb this assistance. The **PHARE Programme** allocation after 2000 includes 30% for institutional strengthening and administrative capacity building to implement *acquis* and 70% to support investment projects in particular in the area of regional and social development, restructuring of industry and small and medium enterprises, which will also allow to fund projects with positive impacts on the environment. The **SAPARD Programme** is oriented to modernisation of agriculture and rural development, which from the point of view of environment will finance measures of local character in the area of protection and use of small water resources and nature protection. 50% of sources from the **ISPA Programme** are devoted to building technical environmental infrastructure, oriented to public sector projects with positive impact on a maximal number of inhabitants. Remaining 50% are for transport. The budget of a project should be over EUR 5 million. Based on project evaluation, the European Commission will provide up to 75% of project costs. **Projects should be oriented to investment most demanding directives of the European Commission**, in particular the Directives on municipal waste water treatment, drinking water, integrated pollution prevention and control, air protection, large combustion facilities (energy sector) and incineration of hazardous and municipal waste. Slovakia will provisionally receive 3.5-5.5% of the total sum of EUR 1 billion per year. **Pre-accession financial instruments of building capacities, which will in the future enable to absorb financial assistance devoted to member states, will be the most important for candidate countries.**

Preparation of the Slovak Republic for effective use of financial resources from the Structural Funds and coordination and monitoring of the pre-accession funds is ensured by the **Preparatory Committee for the EU Structural Funds** which was established by the Resolution of the Government 69/2000 of 2 February 2000.

In relation to the SAPARD Programme, the Slovak Payment Agency (SAPARD Agency) was established on the basis of the Resolution of the Government 815/1999. **Its role is to administrate pre-accession assistance starting from 1 December 1999. Conditions for its accreditation by the European Commission are being prepared. The Plan of Rural Development, which was prepared by the Ministry of Soil Management, was presented to the European Commission. It will be a key tool for use of sources from the SAPARD Programme.**

### 3.4.10 Business Charter for sustainable development

The **Business Charter for Sustainable Development – Basis of Environmental Management (EM)** is an important document adopted in 1990 by the International Chamber of Commerce in Paris. It was adopted at the 64<sup>th</sup> session of the Executive Committee of the International Chamber of Commerce (ICC) on 27 November 1990. “To recognise environmental management as among the highest corporate priorities and as a key determinant to sustainable development; to establish policies, programmes and practices for conducting operations in an environmentally sound manner.” The ICC considers introduction and implementation of environmental management to be a key instrument of application of sustainable development. Support of business sphere in introduction and certification of EMS according to international standards ISO 14000 creates conditions for firms to enter the markets of OECD member countries and accepts requirements of the WTO.

The **national programme of environmental management is under preparation in Slovakia**. It will be gradually recognised in the EU member countries, allowing to overcome the non-tariff trade obstacles and creating conditions for increase of competitiveness of the Slovak producers on the single market of the European Union. The objective of the national programme is to support the continuing improvement of environmental profile of enterprises and to harmonise business targets with environmental policy of the state, with requirements of the public and programme objectives of municipalities and regions. Support of these activities used to be a long-term objective of the Centre of Environmental Management of the Slovak Environmental Agency in Trnava, which however was cancelled on 31 December 1999. At present, these activities were partially transferred to the Centre of Waste Management and Environmental Management of the Slovak Environmental Agency in Bratislava.

The Government of the Slovak Republic adopted a Resolution 779/2000 approving the Programmes of State Aid to support small and medium enterprises for 2000-2005. The Programme of implementation of quality management systems – KVALITA – was approved in the framework of these programmes. Its objective is to support introduction of quality management systems in accordance with international standards ISO 9000, VDA, BS, QS and ISO 14000, good production practice and good laboratory practice. Assistance in the framework of this programme is provided through a direct form, by providing non-returnable financial contribution for certification of an enterprise according to some of the mentioned standards.

### 3.4.11 Economy of the Slovak Republic in relation to sustainable development

The Slovak Republic is medium developed industrial country with corresponding structure of economy, which used to be before 1989 deformed by a centralistic and non-market management system. After 1989 a reductionistic approach was a typical feature of economic transformation, which prefers economy against other aspects of development of the whole society. Due to this fact, the value orientation of the society was subordinated in particular to the criterion of immediate and maximal profit.

These facts can be considered to be the **main obstacles in achieving sustainable development in Slovakia** (including the change of economy). The next negative phenomenon is inappropriate structure of economy – priority sectors of economy are

industrial sectors typical for the second wave (e.g. metallurgy, energy, machinery, chemical industry). Industrial sectors based on use of high technology practically do not exist in Slovakia or are not developed (e.g. pharmaceutical industry), research and development in industrial enterprises were practically liquidated due to privatisation, structures of emerging information society are in initial stages. Resources of economy are strongly centralised and concentrated mainly in the industry and financial sector. Economy is organised and structured in the form of classical industrial hierarchies with a high level of monopolisation, centralisation and concentration, characteristic by low competitiveness of the most of production and high energy intensity.

The core of economic policy after 1989 was laid down in the **Conception of economic reform** (adopted by the Government of Czechoslovakia), recommendations and memoranda of the World Bank and the International Monetary Fund. The basis of the reform was rapid and extensive privatisation connected with maximal liberalisation and de-monopolisation. Such a **conception of economic reform** was at the end of 1990s accompanied by problems in almost all post-communist countries. Reasons, why the economic reform in Slovakia has not been completed, were insufficient consideration of the ongoing global economic trends in the world including the key role of modern information technologies, inappropriate way of privatisation and its politisation. Implementation of the economic policy and reform after 1989 did not take into account the long-term horizons – **non-existence of strategic and policy documents of long-term development of economy** is also typical for Slovakia. After 1989 no official strategic document was worked out in the economic area in Slovakia and strategic dimensions are not incorporated nor in the conception of economic reform or ongoing economic policy.

Sustainable development as a cross-sectoral issue requires for its application existence and **activity of cross-sectoral institutions**. Institutions established in Slovakia with the aim of creation and application of a long-term development of society and economy (in particular the Office for Strategy of Development of Society, Science and Technology) did not meet their objectives. The current lack of such an institution for strategy of economic and social development practically hampers to **implement long-term strategic dimension** into the major policies in Slovakia. The pre-condition of a **healthy development of economy** and society of the Slovak Republic is replenishment of individual policies with a long-term strategy of orientation of economy and society, medium-term policy documents, elaboration of a national strategy of information society development, strategic programmes of digital economy and electronic business as well as strategy of adaptation of the Slovak economy to conditions of the world economy globalisation. It is also necessary to complete missing policies with a focus on preparation of technological policy of Slovakia and policies oriented to support development of science, research and education. Economic potential, which ranks the Slovak Republic among the developed countries of the world, constitutes a good starting point for re-orientation of the Slovak economy and society towards sustainable development. If this potential is not used, Slovakia will be slowly getting among the developing countries.

### **Orientation and support towards sustainable development in the Slovak Republic**

The sustainable development concept is becoming a common vision for the human society. Countries are looking for **specific ways** to meet this concept, while trying to utilise experience of other countries and to adapt internationally adopted commitments to their conditions. Along with meeting the international agreements

supporting transition to sustainable development, countries are trying to achieve **sustainable development** through following ways:

- Implementation of sustainable development principles in long-term strategies of economic and social development or preparation of individual policies in a way which is more friendly in relation to sustainable development;
- Gradual perspective introduction of individual policies oriented to changes in production and consumption patterns, e.g. environmental tax reform. Such policies could help re-orient the current economic systems to systems supporting transition towards sustainable development
- Construction and use of new economic instruments supporting implementation of sustainable development principles in the economic system;
- Creation and implementation of strategies supporting orientation to sustainable development;
- Creation and implementation of programmes and projects supporting orientation to sustainable development;
- Support of local and community economy and local systems supporting implementation of principles of sustainable development at regional level.

In Slovakia the application of sustainable development is in its initial phase. The main role in support of sustainable development principles has been so far played by the Ministry of the Environment through various policy and legislative measures, projects and programmes. Further there is a network of environmental non-profit organisations and first initiatives establishing a local and community economy in a bottom-up approach. Slovakia has not yet worked out an official complex long-term vision (prognosis) nor a strategy of economic and social development.

### **3.4.12 Sustainable model of economy as a substitute for industrial model**

Sustainable development in an economic context should be determined by such an economic orientation and set of tools, which would substitute a new model of economy based on sustainable economic principles supporting long-term socially and environmentally friendly development for the previous industrial model of development.

The idea of sustainable development from the economic point of view should be understood as a further development level of the human civilisation after the agrarian and industrial levels of development.

Need of transition of economy and society to sustainable model was reflected in the second half of the 20<sup>th</sup> century in relation to these processes:

- **transition of developed industrial countries to post-industrial phase of development** – existing from the middle of 1960s and characteristic by shifting the focus of economy from industrial sector to the sectors of service and information; connected to introduction of some of new economic principles supporting sustainable development – e.g. use of non-material



flows instead of material ones, gradual de-centralisation, diversification, sharing the resources, etc.;

- **change of resource basis of economy** – a consequence of long-term non-regulated exploitation of limited natural resources (demonstrated e.g. in the form of oil and energy crises, fluctuation of resource prices, internalisation of real costs in product prices) since the half of 1960s, mutually connected with introduction of new environmentally more friendly technologies;
- **globalisation of the world economy** – is a natural consequence of technological, economic and social development manifested in particular in creation of a global world market regulated by trans-national companies and institutions. For national economies of less developed countries it constitutes, on one hand, a certain threat (caused e.g. by unification of economies of individual countries connected with extension of production and consumption patterns based on industrialism principles), on the other hand an opportunity in the form of modern information technologies (connected with a global extension of Internet and transfer of economic activities from material to non-material information flows). This process is considerably influenced by trans-national institutions (e.g. the World Bank, International Monetary Fund and WTO).

The industrial phase of economic and social development (the 19<sup>th</sup> and 20<sup>th</sup> centuries) was based on industrial large-scale production in industries which was dominant in the economy. It was based on a high level of mechanisation, narrow specialisation, high demand for a number of workers, standardisation, specialisation, synchronisation, concentration, maximisation, centralisation, etc. The industrial model of economy after 150-200 year exploited its developmental opportunities, because it was based on in particular on an overall expansion and excessive use of resources.

The new model of economy should be based on an overall change of economy, change of production and consumption patterns, minimisation of inputs and effective use of resources, transition from use of non-renewable to renewable resources, from unified, serial and mass production to a diversified production, inter-linkaging of production procedures, etc. Start of post-industrial phase of economy in recent decades allows to substitute a model oriented to sustainable development (diversification, subsidiarity, de-centralisation, de-concentration) for the industrial model, and at the same time it integrates socially and environmentally friendly approaches and technologies.

The main differences between the industrial (traditional) model of economy and the post-industrial (new) model of economy can be summarised as follows:

Industrial (traditional) model of economy	Sustainable (new) model of economy
excessive production and consumption	diversification and individualisation of human needs, reasonable consumption
short-term objectives and planning oriented to maximising of profit	long-term objectives and planning
concentration, centralisation, hierarchisation	network organisation of economy and society
simple, specialised labour force, usually with	high qualified and broadly educated labour

low qualification	force
resource wasting, their ineffective use	minimisation of use of resources and energy, maximal effectiveness in their use
excessive generation of wastes and emissions of pollutants	minimisation of wastes and undesirable outputs
mass, serial production, uniformity of goods and services	diversification of production and services
externalisation of costs	maximal internalisation of costs
nature perceived as a resource, non-preferring of protection of environmental quality	nature as a real value, stress on protection of environmental quality
liquidation of local economies via globalisation	globalisation compensated with local economic activities
level of development of a country measured on the basis of economic product	level of development of a country measured on the basis of integration of economic, social and environmental indicators

### **3.5 ENVIRONMENTAL CONDITIONS AND PERSPECTIVES**

#### **3.5.1 Classification of environmental conditions and perspectives**

The starting situation for achieving sustainable development in the Slovak Republic in the framework of **environmental conditions** is determined by development and state of:

- a) **components of the environment** (paragraph 2 of the Act 17/1992) as part of:
- **lithosphere** (geological and geo-morphological conditions),
  - **atmosphere** (climatic and meteorological conditions),
  - **hydrosphere** (hydrological conditions),
  - **soil** (soil conditions),
  - **biosphere** (biological conditions);
- b) **environmental risk factors**
- **physical** (radioactivity, noise, vibrations, electromagnetic fields),
  - **chemical** (harmful wastes and chemical substances),
  - **biological** (pathogenic organisms, environmental mutagenesis, genetic modifications) which can result in undesirable change of the environment or appearance of environment-related diseases;
  - **accidents and natural disasters** (e.g. floods, earthquakes, landslides, avalanches, fires and traffic accidents);
- c) **nature and landscape**, their protection and management at various levels (transregional, regional and local).

Environmental perspectives of sustainable development are based on the ensuring of proportionality among meeting the current and the future needs of the society and the natural conditions, potentials and use of landscape resources. In this process it is necessary to respect carrying capacity (bearing capacity, vulnerability) of landscape and the need to protect its priority non-productive properties and functions, as well as the current state of landscape from the point of view of environmental quality of its components and quality of the whole system (state of the environment).

### **3.5.2 Lithosphere – geological and geo-morphological conditions**

**Geological composition and relief** of the Slovak territory are very diverse despite small area. Slovakia is situated on the border of two important geological and geomorphological units – table lowland area of the Pannonian basin (lowlands and depressions of the Southern Slovakia) and the mountain massif of the Carpathians (more than two thirds of the territory are constituted by mountains and intramountain depressions). On the border of the Eastern and the Western Carpathians the geological basement is created by rocks of Mesozoic range, intra-Carpathian Palaeogene, Neogene volcanic mountain ranges, basins and depressions.

From the point of view of **configuration of relief** it is possible in Slovakia to identify various types of relief with different altitude conditions, relief energy, slopes, shapes of relief and other features – plains, highlands, mountains, high mountains. Types of geological substratum and relief constitute the primary differentiating element from the point of view of other natural components of the landscape, but also from the point of view of use by the man.

**Geological conditions** are determining from the point of view of occurrence of geopotentials, which include resources of the geological environment (mineral resources, groundwater, mineral water, geo-thermal energy, healing sludge, etc.) and favourable geological conditions for utilisation of the territory (proper subsoil, proper conditions for waste landfills and other environmentally risky constructions).

The main groups of **minerals** are energy, ore, non-ore and building minerals. In the past the Slovak territory was important mainly for intensive mining activity in the mountains. Most of ore minerals have however been extracted and their current reserves are small. On the contrary, non-ore and building minerals are relatively large, resources of some minerals are of European importance and are prospective also for the future. Lowlands and depressions are relative rich in building resources and deposits of energy minerals are also located here.

**Total geological reserves** on exclusive deposits on the territory of Slovakia constituted 15.2 billion tonnes (1 January 1999), of which the majority (9.5 billion tonnes) were non-ore minerals. There were then 4.0 billion tonnes of building minerals, 1.3 billion tonnes of energy minerals and 0.4 billion tonnes of ore minerals. There were 767 registered deposits (288 deposits of building minerals, 287 non-ore deposits, 96 energy deposits and 96 deposits of ore minerals). Reserves of minerals are located also on deposits of non-exclusive minerals. On 1 January 1999 there were on the Slovak territory registered 267 such deposits with total reserves of 0.8 billion cubic metres.

Table 31 Reserves of minerals in Slovakia (1 January 1999)

Mineral	Number of deposits		Total reserves (TR)		% of deposits	% of reserves	
	total	with ER	kilo-tonnes	million m <sup>3</sup>	with ER	kilo-tonnes	million m <sup>3</sup>
Energy minerals	93	57	379,778	12,894,000	10.2	5.3	89.2
Ore minerals	90	21	72,405	0	3.8	1.0	0.0
Non-ore minerals	264	224	6,691,758	29,327	40.1	93.7	0.2
Building minerals	288	257	0	1,528,952	46.0	0.0	10.6
Total	735	559	7,143,941	14,452,279	100.0	100.0	100.0

Source: State of the environment reports (Ministry of the Environment); ER – exploitable reserves

In the previous periods, all types of minerals used to be extracted on the territory of Slovakia. As regards the **energy minerals**, in particular brown coal was extracted, to a lesser extent also lignite, natural gas and oil. Consumption of other minerals (uranium, black coal) is covered by import. Only extraction of brown coal and lignite covers an important part of domestic consumption, absolute majority of consumed oil and natural gas is imported. Extraction of **ore minerals** on our territory is declining – just iron ore and small amount of gold bearing ore are being extracted. Slovakia is almost completely dependent on import of ore minerals. Extraction of **non-ore and building minerals** is important. In a number of cases a large part of extracted mineral is exported. Largest volumes of extraction are achieved in limestone, dolomite and building stone, there is an extensive extraction of gravel sands, magnesite, brick minerals and foundry sands. Of other minerals, gypsum, rock salt, ceramic minerals, bentonite, basalt, barite, kaolin, perlite, decorating stone, asbestos, heat-resistant clays, zeolite and others are currently being extracted.

**Development of extraction of selected minerals** (comparison for 1990, 1994 and 1998 – see Table 32) shows an overall decline of extraction in 1990s by 70-85%. This decline is less severe in the case of energy minerals (15-25%), however, in the case of ore minerals extraction of almost all ores was stopped. In the area of non-ore minerals the development after 1990 is not clear. Extraction of some of minerals was substantially declined (asbestos, barite, decorating stone, quartz, quartzite, limestone, steatite, perlite, but also magnesite, ceramic clays and zeolite). On the contrary, there was a growth of extraction of some other minerals – foundry sands, kaolin, gypsum and anhydrite, rock salt, basalt and in particular bentonite and heat-resistant clays. Generally, we can say that volumes of extraction of non-ore minerals have been reduced. Keeping records on extraction and consumption of building minerals is problematic, because a large part of them is extracted at non-reserved deposits.

Table 32 Development of extraction and lifetime of reserves of selected minerals

Mineral	Exploitable Reserves	1990	1994	1998	1999	Index of extraction	Lifetime of mineral (years)	
							1990/1999	A
	Z1 + Z2							
Brown coal and lignite (kt)	270,057	4,766	3,634	3,507	3,732	0.78	70	51
Oil (kt)	593	73.1	67.1	61.0	59	0.81	11	0
Natural gas (mil. m <sup>3</sup> )	7,937	416.7	289.3	311.0	235	0.56	26	2
Antimony ores (kt)	0	76	0	0	0	0	(-)	(-)

Copper ores (kt)	0	361	0	0	0	0	(-)	(-)
Lead-zinc ores (kt)	0	220	0	0	0	0	(-)	(-)
Mercury (kt)	0	43	0	0	0	0	(-)	(-)
Gold-silver ores (kt)	0	13	63.6	*	53	4.08	(-)	(-)
Iron and complex ores (kt)	32,027	1,728	1,021	899	891	0.52	42	8
Asbestos (kt)	5,022	95	31	19	2	0.02	264	252
Barite (kt)	1,442	87	104	41	44	0.51	39	63
Bentonite (tis. m <sup>3</sup> )	14,249	29	56	66	60	3.1	218	510
Basalt (kt)	16,537	29	0	48	47	1.62	345	345
Decorating stone (kt)	10,011	39	18	16	45	1.15	800	432
Dolomite (kt)	222,764	4,646	1,709	1,796	1,504	0.32	124	226
Rock salt (kt)	187,411	92.1	96.6	127.0	125	1.36	1,480	800
Kaolin (kt)	27,882	26	40	28	22	0.85	996	271
Ceramic clays (kt)	18,196	76	59	53	53	0.70	345	240
Quartz and quartzite (kt)	6,905	80.0	63.3	3.0	3	0.04	3,760	178
Magnesite (kt)	160,231	2,084	1,164	1,261	1,143	0.55	128	166
Steatite (kt)	626	15	31	4	1	0.07	156	330
Perlite (kt)	17,063	54	28	24	20	0.37	710	1,310
Gypsum and anhydrite (kt)	304,772	102	122	128	117	1.15	2,480	1,690
Limestone and cement minerals (thousand kt)	1,358	11,734	7,568	7,200	5,597	0.48	182	195
Zeolite (thousand m <sup>3</sup> )	103,248	54	13	10	14	0.26	10,325	*
Foundry sands (kt)	444,079	472	458	522	421	0.89	850	666
Heat-resistant clays (kt)	211	3	2	12	3	1.0	15	8
Building stone (thousand m <sup>3</sup> )	696,754	10,789	5,683	3,100	2,844	0.26	160	165
Gravel sands and sands (thousand m <sup>3</sup> )	270,285	7,669	2,866	1,050	1,469	0.19	140	160
Brick minerals (thousand m <sup>3</sup> )	161,145	1,514	308	410	517	0.34	270	270

Source: Ministry of the Environment

*A – Lifetime of a mineral when extraction remains at 1998 level*

*B – Lifetime of a mineral at the level of real domestic consumption*

*(-) – Exploitable reserves of a mineral in Z1 and Z2 categories do not exist*

*\* - It is not possible to evaluate data*

*Index of extraction – amount of extraction of a mineral in 1990 = 1.00*

**Lifetime of reserves of minerals** depends on the rate of use (extraction) and on amount of exploitable available reserves of industrial categories. As in the reserve balance of exclusive deposits the exploitable reserves are registered only according to conditions of usability of resources, which do not include economic indicators (prices, costs), information on amount of exploitable (economic) reserves is not therefor precise, which also affects lifetime estimates.

Geological reconnaissance in Slovakia is on a high level, exploration rate of traditional minerals is high. Despite that it is possible to expect larger reserves of some of mineral groups than registered at present. On the other hand, it is not possible to extract some registered mineral resources because of conflict of interests with other activities (e.g. nature and landscape protection). Some of the traditional minerals are being replaced with new, untraditional or renewable resources. Rate of mineral recycling is still growing which reduces demand for traditional resources. All facts point out at complexity of this issue and the need of a comprehensive mineral policy of the state.

Based on the current known exploitable reserves, the lifetime of selected minerals in Slovakia is presented in the Table 32. The longest lifetime, if the current extraction rate is maintained, are in reserves of some non-ore minerals – first of all zeolite, quartz and quartzite, gypsum, rock salt. The shortest lifetime (highest exploitation rate) is generally in the case of ore minerals (no exploitable reserves in Slovakia except for ferrous ores), energy minerals (oil, natural gas) and some non-ore minerals (heat-resistant clays, barite).

Occurrence of **geothermal energy** closely relates to geological conditions. It is a renewable natural resource (hot geothermal water and heat of dry rocks). Slovakia is relatively rich in geothermal energy. Of this potential only geothermal water is used in order to gain thermal energy (in particular to heat greenhouses and thermal bathing pools). Geothermal energy resources have been verified in depressions and lowlands. Technologically usable potential has been calculated at 6,300 GWh per year (22,680 TJ per year), which constitutes 22.6% of the potential of all renewable energy resources (see Table 33).

*Table 33 Technologically usable potential of renewable energy resources and their use (1997)*

Resource	Technologically usable energy potential			Used energy potential (1997)			Potential use rate
	(GWh/y)	(TJ/y)	(%)	(GWh/y)	(TJ/y)	(%)	%
Biomass	9,178	33,041	32.9	2,727	9,817	39.7	29.7
Hydropower	6,607	23,785	23.7	3,800	13,680	55.3	57.5
<i>incl.: small hydropower stations (less than 10 MWh)</i>	<i>1,034</i>	<i>3,722</i>	<i>3.7</i>	<i>202</i>	<i>727</i>	<i>3</i>	<i>19.5</i>
Geothermal energy	6,300	22,680	22.6	338	1,217	4.9	5.4
Solar energy	5,200	18,720	18.6	7	25	0.1	0.1
Wind energy	605	2,174	2.2	0	0	0	0
Total	27,890	100,400	100	6,872	24,740	100	24.6

*Source: Ministry of Economy*

Only a negligible amount of geothermal energy was used in Slovakia in 1997 – 5.4% of theoretical potential, which constituted approximately 5% of overall use of renewable energy resources (see Table 33).

Conditions of lithosphere and relief determine disposition of the landscape to some of adverse threatening factors (so called **geobarriers**), which threaten the landscape and the environment and also the human beings (earthquakes, landslides, avalanches, sudden land fault, high radioactivity in territory, etc.) or which worsen conditions for land use (high seismic intensity, unstable slopes, intensive erosion,

changes in volumes of soils, suffosion, etc.). The most important factors include seismic activity and geodynamic phenomena (slope processes), but there are also other (e.g. avalanches, rock sedimentation, suffosion, erosion processes), which are the subject of geological research and assessment.

The territory of the Slovak Republic is **seismically slightly to middle threatened area** (in the marginal area of the Mediterranean - trans-Asian range of earthquakes). Several regions with inclination to earthquakes are located here – the south-western part of the Danube lowland with a centre in Komárno, Brezovské Karpaty, the Žilina depression, the Zvolen depression and surroundings of Humenné – Strážské.

Occurrence of **slope deformations** is a combination of geological and relief conditions, occurrence of activating natural process (mainly climatic factors) and often also external human intervention (e.g. inappropriate building activity). In Slovakia landslides are connected first of all to three main areas (fish mountains, neo-volcanic mountains and depression areas). Registered slope deformations cover 3.7% of the Slovak territory, while regionally they represent more than 20% of the territory and can cause considerable direct and indirect economic damage. Totally 1,801 slope deformations are registered on the territory of Slovakia.

**Mining and extraction activities** have an important antropogenic impact on substratum and relief. The most important consequences of extraction of minerals include creation of large extracted spaces under ground and on surface, undercutting (land settlement, creation of depression without runoff), activation of geo-dynamic phenomena. Other adverse impacts on the environment are constituted e.g. by draining of rock complexes, reduction of abundance of used resources, creation of large extracted spaces under ground and on surface, accumulation of large amounts of contaminated waste (waste dumps, sedimentation basins).

After 1990, due to changes in the economic and legislative conditions, there have been extensive decline of extraction and abandoning of mining works, which brings new problems (need of recultivation and liquidation of mining works). The extraction areas of coal, ores and magnesite represent important sites with adverse impacts of extraction of minerals on the environment.

Besides extraction of minerals the **waste generation** and management are the other economic areas adversely affecting substratum and relief. Specific problem connected to damaging of substratum and relief is constituted by consequences of military activities in recent decades. These activities mostly affected contamination of substratum, soils and groundwater with wastes and oil substances.

**Management of the rock environment in the Slovak Republic** as well as geological reconnaissance and research and the state geological supervision is under responsibility of the **Ministry of the Environment of the Slovak Republic**. Use of minerals (mining activities) as activities mostly affecting the geological environment and mineral resources are under responsibility of the **Ministry of Economy of the Slovak Republic**.

State mining authorities are the **Main Mining Authority** (at central level) and the **District Mining Authorities** at level of local state administration. The **Dionýz Štúr's State Geological Institute** under responsibility of the Ministry of the Environment has dealt with reconnaissance and research of geological factors for several decades.

Protection and rational use of the rock environment is regulated by the **Act 313/1999 on geological works and state geological administration (Geological Act)** and

**the Act 44/1988 on protection and use of mineral resources (Mining Act)** as amended by further regulations.

Adoption of a **new mining act and a Conception of ore and non-ore mining** is the main task for the next period.

A key document at the national level related to use of energy mineral resources is the **Draft Energy Policy of the Slovak Republic** (Ministry of Economy, 1999), which constitutes a new legislative framework of future development in the energy sector. Elaboration and application of the conception should contribute to future reduction of environmental burden, caused by use of non-renewable energy resources, and to growth of share of renewable resources. The **Alternative Energy Policy of the Slovak Republic** (worked out by the non-governmental organisation Energy 2000) was a part of public discussion on the Draft Energy Policy of the Slovak Republic. Its objectives in the area extraction and utilisation of energy resources are not very different from the document prepared by the Ministry of Economy.

**Mineral resources are owned by the Slovak Republic** (Article 4 of the Slovak Constitution). Reserved deposits (important deposits of reserved minerals) are subjects of protection of mineral potential, deposits of non-reserved minerals are parts of a land and the legal protection does not apply to them. The mining act and its executing regulations define two categories for protection and use (extraction) of reserved deposits: **protected deposit area and mining area**.

More than 650 protected deposit areas were in Slovakia in 1998, of that mostly deposits of building minerals. Mining area for use of a reserved deposit was defined for 429 protected deposit areas.

Management of **protected minerals** is defined in the Act 287/1994 on nature and landscape protection and in the Decree of the Ministry of the Environment 213/2000 on protected minerals, protected fossils and their social evaluation.

The **rock environment and relief are non-renewable natural resources** – their quality and quantity are given by the natural structure of the landscape and constitute primary (hardly modifiable) factors of land use.

State and development of the rock environment and relief from the point of view of their sustainable use are given in particular by:

- exploitation of existing resources – intensity of economy as regards consumption of non-renewable natural resources (mineral resources),
- induced impacts of extraction of minerals and related activities on the environment,
- other human activities affecting the rock environment – e.g. construction, infrastructure building, transport, agriculture a water management.

**Absence of a comprehensive mineral policy** is a limiting factor in the use of mineral resources in Slovakia. Such a policy should define conditions of use of individual mineral resources. The new energy policy (Ministry of Economy, 1999) outlines a vision of the state policy in the area of use of fossil fuels (oil, natural gas and coal). In the area of use of ore and non-ore minerals such a policy does not exist. The current state of the mineral basis is characterised by almost total exploitation of ore mineral reserves, very different state and rate of use in the case of non-ore minerals and reduced state control over extraction of building minerals.



Rate of use of renewable geo-thermal resources in Slovakia is very low. So far the biggest obstacles in their better use have been inappropriate pricing, tax and legislative conditions, which cause excessively high production costs.

Induced impacts of extraction of minerals on the landscape and the environment are huge – they constitute one of the most important complex of environmental problems of Slovakia (need of recultivation of mining works, environmental burdens induced by extraction and processing of minerals). Their elimination will require much time and large financial inputs.

- **Sustainable use of mineral resources of Slovakia should be based on gradual and realistic replacement of non-renewable mineral resources (which are missing in Slovakia and are mostly imported) with untraditional and renewable resources. Substantial increase of use of geo-thermal energy potential is required.**

Long-term changes in use of mineral resources should be carried out in synergy with structural changes in the energy and industry sectors.

### 3.5.3 Atmosphere – climatic and meteorological conditions

The basic macroclimatic factor of Slovakia is its geographical location in the middle geographical latitudes and in inland. This determines the global character of climate – it is situated in the temperate warm transitive climatic area with regular alteration of four seasons with prevailing north-western and western winds. Based on **heat and humidity balance**, the territory of Slovakia can be categorised to **three main areas** (warm with humidity deficit, temperate warm with stable humidity balance, cold with humidity surplus), while their differentiation is conditioned mainly by altitude.

Climatic resources are renewable resources - in particular as regards solar and wind energy.

Technologically usable potential of **solar energy** in Slovakia has been calculated at the level of 5,200 GWh/year (18,720 TJ/y), which constitutes 18.6% of potential of all renewable energy resources (Table 34). Amount of usable solar energy is derivate from input of global solar radiation and therefor the best conditions are in lowland and depression areas of the Southern Slovakia. Real use of solar energy is however very low - ca 7 GWh/year were used in 1997 (25 TJ/y), which is only 0.1% of potential and a minimal share in the total use of renewable energy resources. Solar collectors in Slovakia are mostly used for heating water in small facilities.

**Wind energy potential** in Slovakia is small (e.g. as compared to the Western Europe). Technologically usable potential has been calculated at the level of 605 GWh/year (2,174 TJ/year), which is 2.2% of the total potential of renewable energy resources. Appropriate conditions for use of this type of energy are only in higher altitude (total effective area of usable territory is only 257 km<sup>2</sup> - 0.52% of the Slovak territory. The wind energy practically is not used.

In recent decades the **global climate change** is considered to be one of the most important environmental problems. It relates to growth of greenhouse effect of the atmosphere, which is caused by anthropogenic emissions of greenhouse gases (produced mainly by combustion of fossil fuels). Specific problem is constituted by the speed of this change - during 100 years the temperature on several sites of the Earth can be increased by more than 10°C, while on the global average by more than 2°C. These changes are, however, very dynamic and cannot be predicted unambiguously.

Growth of average annual temperature of air by ca 1°C was registered in Slovakia in the course of the 20<sup>th</sup> century. Average total annual rainfall decreased by ca 15% in the South and by 5% in the North of the territory. Considerable decrease of relative humidity of air (in particular in the South-West of the territory) and decrease of snow characteristics almost on the whole territory were registered. These facts point out at the **impact of global climate change** on the territory of Slovakia, while regional scenario of the change of the main climatic elements shows continuation of the current changes also in the future. The Southern Slovakia is a territory with a high sensitivity to consequences of climate changes from the point of view of hydrological cycle and water resources. On the contrary, the West, North and North-East of Slovakia are less sensitive areas.

Another important environmental problem getting a global character is constituted by anthropogenic **depletion of the ozone layer** - loss of stratospheric ozone and increase of tropospheric ozone. High importance of ozone is connected with its absorption capacities in ultraviolet and infrared part of spectrum of solar and earth radiation.

Loss of stratospheric ozone is caused by increasing emissions of pollutants (freons, halons, N<sub>2</sub>O, NO, CO, volatile organic compounds) from energy sector, industry, transport and agriculture. Concentrations of ground level ozone have doubled in the whole temperate zone in this century. The ground level ozone concentrations exceed the critical level for vegetation on the whole Slovak territory. It is the main stress factor in forest ecosystems and reason of 5-10% loss of agricultural plant production. Average ground level ozone concentrations on our territory grow together with altitude and were increasing in particular in the period before 1990. In the last decade a more important growth has not been monitored, but the occurrence of immission limit violation for ozone is still high. Defined indexes of ozone expositions for agricultural crop and forest ecosystems were exceeded in almost all measured sites, at the upper forest line twofold.

Development of consumption of ozone depleting substances is favourable – since 1989 consumption of these substances has been reduced ca by 95%, which is in accordance with requirements of the Montreal Protocol (see Table 34).

*Table 34 Consumption of ozone depleting substances in Slovakia (tonnes/year)*

Group of substances	1986/89	1993	1994	1995	1996	1997	1998	1999
A I – freons	1,710.5	986.9	229.4	379.2	1.2	2.05	1.71	1.69
A II – halons	8.1	2.0	0.0	0.0	0.0	0.00	0.00	0.00
B I – freons	0.1	0.1	0.0	0.0	0.0	0.00	0.00	0.00
B II - CCl <sub>4</sub>	91.0	250.0	315.4	0.6	0.0	0.16	0.07	0.08
B III -1,1,1 trichloroethane	200.1	180.0	136.7	69.4	0.0	0.10	0.00	0.00
C I	49.7			37.2	61.0	59.90	83.72	53.41
C II – HBCFC					14.3	0.00	0.00	0.00
E - CH <sub>3</sub> Br	10.0				9.6	9.60	10.00	0.00
Total	2,069.5	1,419.0	681.5	486.4	86.1	71.71	91.10	55.18

*Source: Ministry of the Environment*

**Anthropogenic factor threatening the air quality** currently considerably exceeds the natural sources. Pollutants are produced mainly in the process of economic activities – in particular energy, transport, metallurgy and chemical industry. The basic pollutants are sulphur oxides, nitrogen oxides, carbon oxide and particulate matter.

Emissions of pollutants in Slovakia have been decreasing since 1989 (see Table 35). For instance, SO<sub>2</sub> emissions decreased in the 1989-1998 period by 68.6%, NO<sub>x</sub> emissions by 43.5%, CO emissions by 36.3%, particulate matter emissions even by 82.1% and emissions of volatile organic compounds in the 1990-1997 period almost by 50%.

Total amount of emitted basic pollutants was in Slovakia in the 1989-1998 period reduced by 57.9%, which constitutes an average annual reduction by almost 6%. This has been caused considerably by economic decline, fuel switching in favour of environmentally more friendly fuels as well as implementation of new legal instruments in air protection together with introduction of modern technologies. Development in emissions of heavy metals (Cd, Hg, As, Pb) has not been positive after 1995 – emissions in 1998 were practically at the same level as in 1995, but as compared to 1990 emissions have been reduced also for heavy metals.

From the point of view of long-range transboundary air pollution Slovakia is still an exporter of pollutants (despite considerable decrease of emissions), although, on the other hand, it receives considerably large amounts of SO<sub>2</sub> and NO<sub>x</sub> emissions.

*Table 35 Development of emissions of pollutants – thousand tonnes, (1990-1999)*

Pollutant	1980	1990	1992	1994	1996	1998	1999
SO <sub>2</sub>	780	538.977	377.634	235.763	224.199	178.780	172.499
NO <sub>x</sub>		226.739	191.709	173.015	139.551	127.944	120.811
Particulate matter		299.368	177.481	78.301	66.977	57.508	61.375
CO		488.698	382.271	374.682	373.315	312.889	316.813

*Source: State of the Environment Report, 1999 (Ministry of the Environment)*

**Air pollution** constitutes one of the most important environmental risks, mainly due to occurrence in urbanised, densely inhabited areas. Pollution has synergetic effects, manifested in **acidification – increased acidity of the environment** (with acid rains, damaging of forest vegetation and soil contamination) and in **adverse health consequences** for inhabitants living in affected areas. The most important substances causing air pollution are sulphur oxides, nitrogen oxides, carbon oxide, particulate matter and heavy metals.

Generally, Slovakia ranks among countries with the largest air pollution and acidity of rainfall water in Europe. Territories permanently affected by air pollution (high concentration of pollutants, duration and frequency of occurrence or mutual effect of a number of pollutants) were declared as **threatened areas** (in 1998 their area was 3,121 km<sup>2</sup> with 1,189 thousands of inhabitants). They include 12 areas (Banská Bystrica, Bratislava, Hnúšťa-Tisovec, Upper Nitra region, Jelšava-Lubeník, Košice, Prešov, Ružomberok, Strážske-Vranov-Humenné, Middle Spiš region, the Žiar depression, Žilina), where the immission situation is regularly monitored and so called air pollution index is assessed (see Table 36). Based on development after 1993, it can be said that also the immission situation is improving in Slovakia.

Table 36 Development of air pollution indexes at monitoring stations (1993-1999)

Air pollution index	1993	1994	1995	1996	1997	1998	1999
Number of evaluated stations	19	26	24	20	24	27	24
IZO <sub>Y</sub> average	2.19	1.95	1.72	1.98	1.76	1.6	1.53
IZO <sub>D</sub> average	2.83	2.15	1.88	2.22	2.15	1.91	1.74
IZO <sub>S</sub> average	1.28	1.04	0.72	1.06	1.05	0.94	0.85

IZO<sub>Y</sub>- index of annual air pollution, IZO<sub>D</sub>- index of daily air pollution, IZO<sub>S</sub>- index of short-term air pollution

Source: State of the Environment Reports 1993-1999 (Ministry of the Environment)

Air management and air protection are under responsibility of the Ministry of the Environment. The main activities causing air pollution and damaging of climatic resources are, however, under responsibility of the Ministries of Economy and Transport. Local state administration is ensured by Departments of the Environment of the *Regional and District Offices*. The **Slovak Environmental Inspection**, seated in Bratislava, with three regional inspectorates of air protection, is a professional control body in the area of air protection. The **Slovak Hydro-meteorological Institute** (SHMI) in Bratislava is a professional organisation for monitoring and evaluation of climatic parameters and air quality.

From a broader point of view, **international conventions** are important in the context of protection of air and the ozone layer of the Earth. They are important first of all for defining a co-ordinated way of reduction of pollutant generation and for laying down emission limits.

At present a number of legal acts and regulations are in force in the area of protection of air and the ozone layer of the Earth. The **Act 309/1991 on protection of air against pollutants (the Air Act)** as amended by further regulations and its executing regulation (Regulation of the Government 92/1996 as amended by further regulations) are especially important. The Act defines obligations of operators of large, middle and small air pollution sources, sets acceptable level of pollution (emission, immission and deposition limits and emission quotas) and determines so called specific protection of air. The issue of emissions from mobile sources is a subject of the Decree of the Ministry of the Environment 144/2000 on requirements for quality of fuels and keeping operational registers on kind, extent and way of providing data to air protection authority. Execution of state administration is in this area regulated by the **Act 134/1992 on state administration in air protection** as amended by further regulations. The **Act 76/1998 on protection of the ozone layer of the Earth as amended by further regulation** (the Act 408/2000 entered into force on 1 January 2001) defines obligations in the area of manipulation with substances depleting the ozone layer of the Earth and products thereof. A number of existing Acts and executing regulations will have to be amended in the light of the legislative plan of approximation of the law to the EU legal system.

An important document at the national level concerning utilisation of climatic resources and impacts of human activities on these resources is the **Energy Policy of the Slovak Republic** (Ministry of Economy), which should contribute to further reduction of air pollution caused by harmful substances and to compliance with international conventions.

The Decree of the Ministry of the Environment 112/1993 as amended by the Decree 103/1995 defined **areas requiring special protection of air**. They are burdened

territories and **territories requiring special management and air protection** – national parks, protected landscape areas and spa sites.

From the point of view of assessment of air quality and climatic resources the **Chapter 9 of Agenda 21 (programming areas B, C, D)** is relevant. In relation to sustainable development the issue has to be assessed from two main aspects:

- use of energy potential of climatic resources as part of renewable natural resources (solar and wind energy),
- state and development of air quality from the point of view of aspects of global climate change (greenhouse effect), protection of the ozone layer and air pollution.

**Use of energy potential of climatic resources** is currently minimal, at very low level. Main reasons are rooted in legislative and economic conditions, which prefer large-scale producers of energy and do not create conditions for stimulation of a diversified use of energy resources. Nor the draft energy policy deals with these issues. **Previous development is** therefor in this area from this point of view **adverse**.

On the territory of Slovakia there has been in recent decade **unambiguously positive trend in air quality development**. Emissions of practically all indicators (SO<sub>2</sub>, NO<sub>x</sub>, particulate matter, volatile organic compounds) have been decreased, use of ozone depleting substances has been considerably reduced, the overall immission situation is improving.

However, there are **adverse trends in global climate change and destruction of ozone layer** due to big inertia of these effects. Long-term average annual temperatures of air are expected to increase by 2-4 °C by 2075. Adverse changes in annual rainfall regime are also expected (moderate increase of total rainfall in winters, but total decrease of snow covering characteristics; moderate decrease of total rainfall in summers, however, together with expected occurrence of more heavy rainfalls).

We can also expect strengthening and elongation of dry periods in warm parts of the year with accompanying decrease of flow rate in rivers and soil humidity as well as regional differences in expected consequences of climate change and related hydrological parameters (runoff regime, flow rate conditions, groundwater resources). Increased concentrations of ground level ozone will endure in the next decades – the concentration trends will depend on emission reduction, especially emissions of nitrogen oxides. Decrease of ground level ozone concentrations will be slowed by global warming.

Sustainable use and management of climatic resources and air in Slovakia should be based on **substantially larger use of potential of renewable climatic resources** (solar and wind energy) and on **continuation in reduction of emissions of harmful substances into air** and reduction of use of harmful substances.

### **3.5.4 Hydrosphere – hydrological conditions**

Water is an important component of the environment. The rainfall and runoff conditions of the temperate climatic zone and position on the main European watershed are the most important factors of surface water and groundwater formation in Slovakia. Almost the whole territory is drained to the Black Sea and to the Danube river basin, a small part of the territory is drained to the Baltic Sea (the

Dunajec river basin). The river basins of the rivers Danube, Morava, Váh, Hron, Bodrog and Hornád are the **main river basins** of Slovakia. There are 49,775 km of watercourses on the Slovak territory. The **largest rivers** flowing through our territory are Danube, Morava, Váh, Bodrog, the **longest rivers** are Váh, Hron, Ipeľ, Hornád. Amount of drained water depends on a so called **runoff coefficient**, which ranges from 10-20% in lowlands to 60-80% in mountain areas, on the average it is 32-35%.

The Slovakia's territory is relatively rich in **groundwater reserves**, which are bound to various types of subsurface collectors. On the basis of geological composition it is possible to determine several main areas with a characteristic groundwater cycle – karst areas, areas of neo-carbonaceous rocks of the Carpathians, areas of depression and lowland highlands and areas of fluvial sediments. The territory of Slovakia is rich in **mineral and thermal waters**, which are bound to tectonic failures or deep geological boreholes.

From the point of view of localisation, water resources (both surface water and groundwater) are distributed irregularly, which leads to imbalance between available amount and demand for water. Water sources are created from rainfall water and from the overall hydrological cycle in the landscape, however, only a part is usable for the man and his activities. Water sources from rainfalls in Slovakia constitute a long-term average surface runoff  $400 \text{ m}^3 \cdot \text{s}^{-1}$ . Real available water resources are, however, substantially larger (increased by flow rates of watercourses flowing to Slovakia from neighbouring countries – total runoff is  $1,700 \text{ m}^3 \cdot \text{s}^{-1}$ ). From the point of view of **surface runoff** there have been **adverse trends** in the recent decades, which can relate to beginning of global climate change. **Rainfalls** in the 1993-1998 period decreased ca by 3% and surface runoff even by 9%, as compared to the long-term average (1931-1980).

Hydro-geological conditions of Slovakia are relatively favourable from the point of view of creation and accumulation of groundwater resources and reserves, but irregular distribution is an disadvantage. At present, approximately **60% of the Slovak territory suffers from lack of water resources**, 30% of the territory has good conditions as regards water resources and 10% of the territory has the best conditions. Favourable hydro-geological structures, covering 38% of the territory, accumulate as much as 84% of usable groundwater resources. Available surface water and groundwater resources on the Slovak territory are presented in the Table 37.

*Table 37 Available surface water and groundwater resources on the territory of Slovakia*

Water abstractions		1931-1980	1993-1998	1993	1994	1995	1996	1997	1998	1999
Average rainfall volume	million $\text{m}^3$	39,823	38,744	33,202	40,117	40,657	41,147	37,076	40,215	40,289
Average runoff volume	million $\text{m}^3$	12,818	11,737	9,808	12,800	11,966	12,751	12,114	10,986	13,381
Runoff coefficient	%	0.32	0.30	0.30	0.32	0.29	0.31	0.33	0.27	0.33
Autochthonous surface water resources	$\text{m}^3$ per inhabitant	2,340	2,186	1,838	2,390	2,229	2,371	2,248	2,037	2,168
Usable amount of groundwater	million $\text{m}^3$	*	2,335	2,342	2,320	2,330	2,340	2,337	2,341	2,387
Groundwater	$\text{m}^3$ per inhabitant	*	434.8	438.9	433.1	434.0	435.1	433.8	434.1	442.2

resources	inhabitant									
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Source: Report of the State Water Management Balance 1997/98, State of the Environment Reports 1993-1999 (Ministry of the Environment)

Development of **surface water and groundwater abstractions** in the Slovak Republic is presented in the Table 38. In Slovakia approximately 11% of volume of autochthonous surface water resources are abstracted annually, which is, however, less than 3% of the total available amount of water. From the point of view of surface water amount the situation is relatively favourable. The total amount of surface water supplies decreased in the 1990-1999 period by 47%, surface water abstractions have decreased by 34.4% since 1992. Groundwater abstractions dropped in this period by 32.5%. Ca 85% of surface water are intended for industrial purposes, the rest for public water supply and agricultural purposes. Groundwater abstraction are intended primarily for public water supply (78%). Although abstractions in 1998 constituted only 20% of the total amount of usable groundwater resources, some areas of Slovakia still suffer from lack of drinking water due to irregular distribution of water. Exceeding environmental limits of usability of groundwater resources is becoming a problem.

Table 38 Development of surface water and groundwater use in Slovakia - l.s<sup>-1</sup> (1990-1999)

Water abstractions		1992	1994	1995	1996	1997	1998	1999	Abstraction coefficient 1999/1992
Annual groundwater abstractions	l.s <sup>-1</sup>	21,838	19,178	18,332	16,763	15,774	15,646	14,733	0.67
Annual surface water abstractions	l.s <sup>-1</sup>	32,813	25,372	25,627	25,262	25,734	23,232	21,540	0.66
Share of non-billed water	%	27.7	25.6	25.7	26.0	26.9	27.3	29.0	1.05

Source: State of the Environment Reports 1993-1999 (Ministry of the Environment)

Table 39 Providing inhabitants with water and connection of households to sewerage

Indicator	1990	1992	1994	1996	1997	1998	1999
Inhabitants served by public water supply (thousand)	3,990	4,082	4,194	4,288	4,354	4,427	4,443
Share of total number of inhabitants (%)	75.3	77.0	78.4	79.7	80.9	82.1	82.3
Inhabitants living in houses connected to public sewerage (thousands)	2,689	2,738	2,794	2,853	2,891	2,938	2,953
Share of total number of inhabitants (%)	50.8	50.9	52.3	53.0	53.7	54.5	54.7

Source: Statistical Yearbook (1995, 1999)

**Providing inhabitants with drinking water** (connection to water supply network) and rate of connection to **sewerage systems** are concrete steps of the society taken in order to manage water resources and to serve inhabitants with healthy water. These two indicators have a positive tendency in Slovakia since 1990 (Table 39). Number of inhabitants connected to public water supply was growing yearly on the average by 55 thousands and to public sewerage by 31 thousands yearly. The level of providing inhabitants with quality and healthy drinking water and in particular the

rate of connection to sewerage network are, however, still insufficient. At the same time there are considerable regional differences (unsatisfactory situation is mainly in the rural areas, especially in the Eastern Slovakian region).

**Hydropower potential** is an indicator showing possible use of energy of running water (in particular watercourses). Water represents the second most important renewable energy resource on the territory of Slovakia (after biomass). Technologically usable hydropower potential was calculated at the level of 6,607 GWh/year, which is almost one quarter (23.7%) of the potential of all renewable energy resources. Of the watercourses of Slovakia, the rivers Váh and Danube are clearly the most important, followed by the rivers Hron, Orava and Hornád.

In 1990s, **use of water energy** was in Slovakia relatively fluctuating, however, there is a growing trend. In 1990, hydropower potential was used at the level of 38% of the potential, in 1998 it was 70%, which is approximately **20% of total electricity production**. Utilisation of hydropower potential was growing mainly due to use of large water works. Slovakia currently operates around 200 small hydropower stations, while as much as 84% of energy was produced in hydropower stations with output over 10 MW and only 1.2% of energy was produced in hydropower stations with output under 200 kW. Energy utilisation of basins in 1998 is presented in the Table 40.

*Table 40 Total hydropower potential (HPP) of river basins on the territory of Slovakia*

River basins	HPP	Share of HPP in Slovakia	Indicative use of HPP (2000)	
	GWh/year		%	GWh/year
Danube	2,539.6	38.4	2,458.8	96.8
Váh	3,155.9	47.8	2,043.9	64.8
Hron	557.6	8.4	112.5	20.2
Bodrog and Hornád	353.7	5.4	132.5	37.5
Total	6,606.8	100.0	4,747.7	71.9

*Indicative use of HPP – sum of HPP of all operated hydropower stations and hydropower stations under construction*

*Source: Murínová et al., 1997*

**Water management adjustments**, which have a long tradition in Slovakia, constitute an important factor of human impacts on water and water resources. At present they fulfil a number of roles – in particular retention, flood protection and irrigation (partially also drinking water supply, recreation), however, their impacts can be problematic from the environmental point of view. **Construction of water reservoirs** belongs to the most radical interventions to the hydrological cycle – since 1970 the number of large water reservoirs on the territory of Slovakia and their accumulation rate have doubled. **Watercourse adjustments** constitute the most common form of human impacts on the hydrological cycle – at present approximately 22% of total watercourse length in Slovakia are adjusted, which is an increase to almost double since 1970. These adjustments have very serious impacts on ecological functions of watercourses and their ecosystems. **Draining of territory** relates mostly to agricultural soil in lowlands, while ecologically and economically ineffective draining systems were built often. Area of drained territories has increased since 1970 approximately by 10%.



Despite permanent application of water management adjustments, there is still **adverse development in flood hazards** due to global climate change consequences, while the issue of flood protection is becoming still more important.

Besides water abstraction and water management adjustments the man affects quantity and quality of water resources by **waste water discharges** directly or through sewerage networks. Waste water is produced in Slovakia mainly by industry and municipalities (sewerage systems of municipalities). Due to insufficient treatment large amounts of pollutants and substances supporting seaweed growth are getting to surface water, which finally leads to an overall worsening of water quality in watercourses and standing water (eutrophication). An overall volume of waste water discharged to surface water has been relatively stable in the recent decade, with a moderate increasing trend since 1994.

*Table 41 Pollution of waste water discharged to watercourses and public sewerage*

Watercourse pollution		1990	1992	1993	1994	1995	1996	1997	1998	1999
waste water discharged to watercourses	mil. m <sup>3</sup>	1,208	1,173.5	929.9	1,223.5	1,168	1,140	1,109	1,138	1,105
BOD <sub>5</sub>	thous. t	100.0	63.2	38.9	34.3	32.2	27.4	22.6	22.0	20.9
COD	thous. t	247.0	174.0	99.8	107.0	87.9	75.8	68.9	66.4	63.8
non-polar extractable substances	T		1,346	767	772	879	627	565	512	360
insoluble substances	T				41.4	45.0	41.1	37.0	29.4	26.0
untreated waste water	%					30.1	27.9	22.8	30.2	30.4
waste water discharged to public sewerage	mil. m <sup>3</sup>		542	550.4	557.6	551.1	543.7	521	524	499
treated waste water discharged to public sewerage	%		91	83.6	88.7	91.4	93.5	95.4	92.4	94.8

*Source: State of the Environment Report, 1999 (Ministry of the Environment), Statistical Yearbooks*

Total volume of pollutants discharged to watercourses is decreasing relatively considerably. In the 1992-1998 period, BOD<sub>5</sub> decreased by 65%, COD<sub>Cr</sub> by 62% and non-polar extractable substances (NES) by 62%. At the same time the amount discharged insoluble substances (IS) decreased by 29% (see Table 41). This trend is due to improvement in technological processes in production together with decreasing volumes, development of sewerage and waste water treatment plants in Slovakia. Share of treated waste water discharged to public sewerage was in 1998 higher almost by 2% as compared to 1991 (but it was lower than in 1996-1997).

**Surface water quality** has been in Slovakia systematically monitored at selected profiles since 1963. Assessments before 1999 were regulated by requirements of the STN standard 757221, based on which the water quality was ranked according to six groups of indicators (A-F). Since 1999, eight indicators have been used (A-H). Resulted water quality is according to these indicators categorised to five purity

classes. Results for the main river basins of Slovakia for 1998 are presented in Table 42.

*Table 42 Assessed length of monitored watercourses of 5<sup>th</sup> purity class in 1999 according to groups of indicators – main river basins of Slovakia*

5 <sup>th</sup> purity class	River basin													Slovakia total
	Da-nube	Morava	Small Danube	Váh	Nitra	Hron	Ipeľ	Slaná	Bodrog	Tisa	Hornád	Bodva	Po-prad	
A – group	0.0	11.45	31.9	25.8	27.5	0.0	5.4	14.0	48.7	0.0	0.0	0.0	0.0	164.75
B – group	0.0	1.80	0.0	0.0	14.9	0.0	0.0	11.8	28.8	5.20	85.7	0.0	0.0	148.2
C – group	0.0	10.45	31.9	87.0	186.0	48.30	17.8	0.0	22.3	0.0	8.5	0.0	0.0	412.25
D – group	0.0	1.80	31.9	33.7	47.3	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	124.7
E – group	0.0	0.0	0.0	138.0	133.8	211.8	82.7	154.0	519.8	5.20	370.1	36.4	18.40	1,670.20
F – group	0.0	34.35	0.0	67.5	113.9	50.4	19.9	72.0	34.8	0.0	94.1	0.0	0.0	486.95
Monitored length	173.0	336.0	237.3	896.8	401.4	489.2	432.5	254.9	761.6	5.20	673.3	127.4	162.5	4,951.1
Assessed length	173.0	223.95	199.5	637.7	288.5	333.8	234.2	172.3	604.0	5.20	440.9	110.4	129.0	3,552.45

*Source: State of the Environment Reports, 1993-1998 (Ministry of the Environment)*

Comparing the share of individual water purity classes at all monitored segments of watercourses in Slovakia in the 1991-1998 period (see Table 43), it can be stated that **there is not an apparent positive trend** in development of surface water quality in Slovakia. Despite reduction of waste water amounts discharged to watercourses and despite growing treatment rate, some of basic water quality indicators are not improving (especially biological and microbiological indicators and basic chemical and physical indicators). It demonstrates, inter alia, a relatively large share of “unregistered” untreated waste water and areal origin of water pollution, in particular from agriculture.

An 1999 amendment to the STN standard 75 7221 (Classification of surface water quality) brought a re-categorisation of indicators of water quality and adjustment of limit values of water quality classes. Therefor the previous table contains data on water quality classes in monitored watercourses only for 1999.

*Table 43 Development of relative percentage representation of purity classes in watercourses of Slovakia according to individual indicators (1991-1998)*

Purity classes	A – oxygen regime indicators				B – basic chemical and physical indicators				C – additional chemical indicators			
	1991	1994	1996	1998	1991	1994	1996	1998	1991	1994	1996	1998
I	0.3	0	0	0	0	0	0	0	17.1	21	20.9	22.7
II	26.2	32	38.9	38.2	3.8	0	0	0	26.9	28	26.6	32.3
III	28.7	41	43.1	43.2	20.3	22	43.9	44.5	12.9	14	11.5	13.2
IV	16.1	13	13.1	11.8	21.7	23	32.4	28.2	21.3	27	30.3	25.5

V	28.7	13	4.9	6.8	54.2	55	32.7	27.3	21.7	10	10.7	6.3
	D – heavy metal indicators				E – biological and microbiological indicators				F – radioactivity indicators			
	1991	1994	1996	1998	1991	1994	1996	1998	1991	1994	1996	1998
I	15.5	3	1.9	13.2	0	0	0	0	6.3	32	15.4	16.7
II	15.5	29	26.7	19.8	1.4	0	0.4	0.4	34.4	37	53.8	66.6
III	34	39	13.3	14.3	11.9	14	8.2	11.4	31.3	21	30.8	16.7
IV	22.7	16	31.4	41.8	11.5	23	38.5	30.9	25	10	0	0
V	11.1	13	26.7	10.9	75.2	63	52.9	57.5	3.1	0	0	0

Figures express a percentage share of analysed samples in respective purity classes  
Source: State of the Environment Reports, 1993-1998 (Ministry of the Environment)

**Table 44 Relative percentage representation of water purity classes at abstraction points of monitored watercourses**

Purity class	A – oxygen regime indicators	B – basic physical and chemical indicators	C – nutrients	D – biological indicators	E – microbiological indicators	F – micro-pollutants
	1999	1999	1999	1999	1999	1999
I	6.3	4.6	0.5	0.5	0	4.1
II	38.0	36.4	34.7	18.2	1.1	10.8
III	39.8	40.9	37.5	67.0	13.6	27.0
IV	9.6	13.0	15.9	9.7	37.0	40.5
V	6.3	5.1	11.4	4.6	48.3	17.6

Source: State of the Environment Report, 1999 (Ministry of the Environment)

**Table 45 Groundwater quality indicators – limit exceeding values (comparison of the years 1993, 1998 a 1999)**

	Indicator	Total Fe	Mn	NH <sub>4</sub> <sup>+</sup>	Ni	SO <sub>4</sub> <sup>2-</sup>	NO <sub>3</sub> <sup>-</sup>	Cl <sup>-</sup>	NES <sub>UV</sub>	Phenols
	limit (STN757111) mg.l <sup>-1</sup>	0.3	0.1	0.5	20	250	50	100	0.05	0.05
1999	number of measurements	386	386	386	386	386	386	386	386	386
	limit exceeding values (%)	41.19	41.19	12.69	7.77	8.81	8.29	5.70	18.56	7.25
1998	number of measurements	284	284	284	284	284	284	284	283	282
	limit exceeding values (%)	41.55	39.44	19.02	18.31	11.27	10.21	9.16	26.15	19.50
1993										
	limit exceeding values (%)	53.4	38.3	15.2	*	8.1	13.2	7.9	*	1.6

Source: State of the Environment Reports, 1998 and 1999 (Ministry of the Environment)

Adverse situation still persists in the area of **groundwater quality**. Permanent monitoring installations are situated in 26 areas, which are important from the water management point of view. Majority of them is in territories with the most appropriate conditions for settling and related agricultural and industrial production. The lowest pollution level of groundwater was registered in mountain and submontane areas. Fe, Mn and  $\text{NES}_{\text{UV}}$  are problematic indicators with most frequently exceeded limit values of quality. Often exceeding of limit Fe concentrations has an adverse impact on oxygen regime, leading to mobilisation of heavy metals. Such a situation is caused by accumulation of natural conditions and anthropogenic impact. Utilisation of territories for agricultural and urban purposes lead to frequently increased contents of oxidised and deoxidised forms of nitrogen, sulphates and chlorides in water, in particular in lowland areas. In 1998, two thirds of samples did not comply with a drinking water standard, which is the same value as in 1993. After comparing the results (see Table 44), the situation in a number of indicators has improved (lower share of non-complying samples) – for example total Fe,  $\text{NO}_3$ , however, **in most indicators the share of non-complying samples has increased** – in particular as regards phenols (increase from 1.9 to 19.5%) and non-polar extractable substances (increase from 10.0 to 26.2%).

**Responsibilities in the area of water and water resources in Slovakia** are divided at the level of central state administration among three Ministries – water protection is under responsibility of the **Ministry of the Environment** and use of water under responsibility of the **Ministry of Soil Management**. State health control and natural curative water resources are supervised by the **Ministry of Health**. The main activities causing threat and pollution of water resources belong to the sectors of soil management (agriculture, water management), economy (industry) and transport.

**Regional and District Offices** ensure local state administration through their environmental departments. The **Slovak Environmental Inspection**, seated in Bratislava, with its five regional water protection inspectorates is a professional control body in the area of water resource protection. Practical maintenance and management of watercourses and water resources is provided by the **Slovak Water Management Enterprise**, located in Banská Štiavnica. It has branches according to the main river basins of Slovakia (the river basins of the Danube, Váh, Hron, Bodrog and Hornád). The Slovak Hydro-Meteorological Institute is an organisation dealing with monitoring and evaluation of the state and quality of water resources. A number of international conventions and especially the **Act 138/1973 on water (Water Act)** as amended by further regulation are important from the point of view of protection and rational use of water resources. The act lays down basic division of waters, water management and protection of water quality. It defines specific institutes for protection of water resources and sets obligation to pay for water withdrawal and waste water discharges. The **Regulation of the Government 242/1993** sets indicators of acceptable level of water pollution. Management of natural curative resources and resources of mineral table waters is a subject of the **Act 277/1994 on health care**.

The **General Plan for Protection and Rational Use of Water** (Ministry of Soil Management, 1995) is a policy document at the national level related to use and protection of water and water resources on the territory of Slovakia. Its application should contribute to more rational use of water resources, e.g. within the documents of the **Programme of Water Management Development till 2010** and **Programme of Flood Protection in Slovakia till 2010** (Ministry of Soil Management, 1999).

A number of existing Acts and implementing regulations in the area of water management have to be amended in the light of the legislative plan of approximation

of the legal system to the EU system. The Ministry of the Environment of the Slovak Republic worked out and submitted to further legislative procedure a **new Water Act** together with implementing regulations. It will be necessary to prepare a new system of water management planning and keeping registers, prepare new river basin management plans, delineate areas of special water protection regime. In 2002, an Act on use of hydropower potential of watercourses in Slovakia should be worked out.

**Guiding water management plans** and more recent **hydro-ecological plans**, which are being worked out for partial catchments on the Slovak territory, are the main instruments of protection and rational use of water and water resources in accordance with the Act 138/1973 on water (Water Act) as amended by further regulations.

**Protection of water resources** has to be understood as an integrated protection of quality and quantity of groundwater and surface water, including curative and mineral waters. General protection of water and water resources is regulated by the Act 138/1973 on water on the whole territory of Slovakia. Besides that, **protected areas of natural water accumulation** – so called protected water management areas – have been designated, where, due to favourable natural conditions, surface water and groundwater are naturally accumulated. At present, totally 10 protected water management areas have been designated with total area of 6,942 km<sup>2</sup> and usable amount of surface water reserves of 6.47 m<sup>3</sup>.s<sup>-1</sup> and groundwater reserves of 33.49 m<sup>3</sup>.s<sup>-1</sup>. The category of **important water management areas** is not legislatively based. There are 26 important water management areas in Slovakia with important groundwater reserves, which have been monitored from the point of view of quality since 1982 and assessed regularly each year in the yearbook of the Slovak Hydro-Meteorological Institute. A problem is constituted by often only formal protection of these areas (e.g. Žitný ostrov region).

**Stricter special protection** is applied in the form of zones of hygienic protection and through designation of water supply courses and their basins. **Zones of hygienic protection** are to protect water resources and are designated usually in three levels. 1,138 zones of hygienic protection of groundwater resources and 71 zones of hygienic protection of surface water resources have been designated in Slovakia.

**Water supply courses** are watercourses especially intended as water resources for providing inhabitants with drinking water. Totally, 103 water supply courses have been designated in Slovakia. Each of them has a catchment. These courses together with courses important from water management point of view have been delineated in the Decree 56/2001.

**Mineral and natural curative waters** – *natural curative waters* and *natural resources of mineral table waters* constitute a specific group in accordance with the Decree of the Ministry of Health 15/1972. Protected zones are designated for their protection.

**Chapter 18 of Agenda 21 (programming areas A-G)** deals with issues of water and water resources. Development of quality and use of water and water resources in relation to sustainable development has to be evaluated from two main aspects:

- quantitative trends in balance of water resources and their use,
- development of water resource quality.

**Amount of water drained from the Slovak territory has been decreasing from ca 1980.** The largest decrease has been monitored in the southern and south-eastern parts of Slovakia, the smallest decrease in the northern Slovakia. These trends are

likely to continue also in the future, while the most considerable decrease of water content is expected in the southern parts of Slovakia. Fixation of precipitation in snowing cover in winters will decrease, which will contribute to increase of runoffs in this period. On the other hand, elongation of summer-autumn minima is expected and the minimal flow rates are expected to appear in the period of August-December. Based on that, in the future it is possible to expect **adverse trends in development of quantity and quality of water resources**.

At the same time, increased probability of occurrence of rainfall extremes can be expected in relation to global climate change, which will cause **increased flood hazard**. Along with climatic extremes the reason of floods is in particular inappropriate state of river basins, causing imbalanced runoff conditions and growth of extreme flow rates. Today, it is generally recognised that technical measures are not sufficient to protect territory against floods and **revitalisation of whole basins is necessary**.

Although, there is a relatively sufficient amount of water resources in Slovakia, their spatial distribution is unfavourable and **water resource management is problematic**. The situation in use of water resources has been considerably improved in the recent decade, which can be seen in permanent decrease of water consumption. Despite that, in a number of areas the problem of excessive exploitation of groundwater resources is appearing. This is partially due to the lack of local resources and missing possibilities of water inlet via long-distance water supply systems.

From the point of view of application of the sustainable development strategy the area of strict protection of water resources is one of the biggest challenges. The current adverse situation has been caused by uneconomical water resource management, inappropriate technological installations and water leakage in distribution systems. From the institutional point of view it is necessary to ensure such conditions, which will allow to use and enhance water resources – in particular through compliance with ecological limits and constant reduction of loss of water in distribution systems.

Besides high water consumption, **insufficiently developed water management infrastructure** is another problem. While in the developed countries 95-100% of inhabitants are served with water from public water supply, in Slovakia it is approximately 82% of inhabitants. Only 54% of inhabitants are connected to public sewerage systems.

**Use of hydropower potential** is on high level, when compared with other renewable resources, however, the way of utilisation is questionable. In the past, there used to be a higher number of small hydropower plants in Slovakia than today. Since 1950, the conception of use of hydropower potential has been substantially changed – small hydropower plants were gradually disappearing and large water management works started to be built, often without required measures to minimise their impact on biotic conditions of watercourses. Construction of water management works in the future should be therefor concentrated on re-construction and building of small hydropower plants on existing water management works or on the water management works under construction and on preferential use of watercourses important from the energy point of view.

Overall development of **quality of surface water and groundwater** on the Slovak territory is adverse. Quality of surface water in some indicators has partially improved since 1990 (mainly due to substantial improvement of technologies, increased share

of waste water treatment and production decline). Despite that, problems with water quality still exist on a number of watercourses – in particular as regards biological and microbiological indicators (57.5% of length of monitored watercourses are in the 5<sup>th</sup> purity class) and basic chemical and physical indicators (27.3%). Quality of groundwater is permanently bad especially in urbanised and agricultural areas, where important water resources are often situated (flood plains and terraces of big watercourses). Taking into account the fact that they constitute a substantial part of drinking water potential on the Slovak territory, improvement of critical situation in quality of groundwater resources is extremely important from the sustainable development point of view.

Application of **sustainable integrated river basin management** is a final development objective in the area of water from the sustainable development point of view.

### 3.5.5 Soil – soil conditions

**Soil is the upper layer of the Earth's crust, modified by external factors to productive layer, which enables growth of vegetation. Character of soil depends on local geographical conditions (in particular substratum, relief and climate) and is considerably affected by human activities. An entire range of soil types are in Slovakia, which are fixed to various types of abiotic environment. Two basic soil groups can be defined from the geographical point of view – soils of lowlands and depressions and mountain soils. The most widespread soil types are cambisols, rendzinas (mostly in mountains), fluvial soils, black soils, brown soils, luvisols (mostly in lowlands and depressions).**

One of the most important functions of soil as a natural resource is its **production capacity** (fertility, quality), which is used in particular in agriculture and forestry. Taking into account the variability of natural conditions on the territory of Slovakia there are also large differences in soil quality. Black soil complexes on loess and fluvial sediments, which can be found in lowland areas, are the most fertile soils. Medium heavy brown soils, fluvial soils, pararendzinas and some of cambisols, which are situated in depressions and lower parts of highlands are also fertile. The medium fertile soils include shallow rendzinas, pararendzinas and andosols, medium heavy luvisols, heavy pseudo-gluey brown soils, fluvial soils, pseudo-gluey soils and most of cambisols. These soil complexes are in depressions, lower parts of mountains and plains in river alluvia. Less fertile soils include rhegosols, rankers, gluey soils, gravel soils, acid and wet cambisols and gravel fluvial soils, which can be found primarily in medium and high mountains. The least fertile soils are created by complexes of litosols, podsollic soils, salinic soils and organosols (highland peat bogs), they are spread in the mountain zone and partially also in lowlands.

A system of soil-ecological units has been worked out in Slovakia in order to express the production capacity of soils. With a certain level of simplification the soils can be divided into three categories: **high productive** agricultural soils cover 21.8% of the agricultural land, **middle productive** soils cover 54.7% of agricultural land and **low productive soils** represent 23.5% of the total area of agricultural land. The structure of production potential of agricultural soil in Slovakia by administrative regions is presented in Table 45.

Table 46 Structure of production potential of agricultural soils by administrative regions

Soils			
Administrative region	High-productive (ha)	Middle-productive (ha)	Low-productive (ha)
Bratislava	36,799	36,616	8,087
Nitra	26,553	97,387	54,531
Trnava	178,576	84,004	7,521
Trenčín	239,472	156,962	14,202
Banská Bystrica	5,172	270,877	138,218
Žilina	329	115,405	73,774
Košice	1,648	246,529	84,105
Prešov	213	216,330	144,922
<b>Slovak Republic</b>	<b>488,762</b>	<b>1,224,110</b>	<b>525,360</b>
<b>Percentage</b>	<b>21.8</b>	<b>54.7</b>	<b>23.5</b>

Source: Research Institute of Soil Science and Soil Protection (VÚPOP), 1999

Intensive agriculture not only in lowland, but in submontane regions as well, was typical for **soil use** in Slovakia. Relatively important changes appeared in 1950s in connection with socialisation of agriculture and accelerated industrialisation, while the area of agricultural land was being decreased (in favour of industrial production and settlements). The character of agriculture also changed (merging lands into larger units). At present 49.8% of the total area of the state represent agricultural soils, 40.7% forest soils, 1.9% water areas and 7.5% built up and otherwise used areas (Table 46). Almost two thirds of agricultural soils (60.1%) are used as arable land; meadows and pastures constitute 34.7%. With 0.45 ha per capita of agricultural land and 0.27 ha per capita of arable land (which is the lowest level of self-sufficiency) Slovakia ranks **among the countries with low area of soil ensuring food production**. While in 1945 there was 1 ha per 1.23 inhabitants, at present there is 1 ha per 2.22 inhabitants. Share of agricultural land has dropped since 1945 from 56% to 50%. As regards use of production potential of soils for forest management purposes, the trend is reverse. While in 1945 the share of forests was approximately 35%, at present the forest coverage is more than 40% (Table 46).

Filtrating and accumulating functions, transformation function, decontamination, buffer functions and providing living space for micro-organisms and gene pool belong to the most important non-production functions of soil.

Increasing share of territories with a long-term or permanent loss of production ability - urbanised and built-up areas - is an adverse trend from the point of view of production potential use.

The current state of soils in Slovakia is determined first of all by intensive non-diversified use in recent 50 years, when the production function of soil used to be preferred and the other functions of soil were suppressed.



*Table 47 Development of structure of use of production potential of soils in Slovakia (1945-1999)*

Year	Agricultural soil		Of that arable soil		Forest soil	
	km <sup>2</sup>	%	km <sup>2</sup>	%	km <sup>2</sup>	%
1945	2,774	56.6	1,787	36.4	1,720	35.1
1960	2,754	56.2	1,761	35.9	1,785	36.4
1970	2,628	53.6	1,683	34.3	1,850	37.7
1980	2,477	50.5	1,516	30.9	1,912	39.0
1990	2,448	49.9	1,509	30.8	1,989	40.6
1995	2,446	49.9	1,479	30.2	1,992	40.6
1998	2,444	49.8	1,469	30.0	1,998	40.7
1999	2,442	49.8	1,460	29.8	2,000	40.8
2010*	2,350	47,9	1,279	26,1	2,050	41,8

*Source: Ministry of Soil Management, 2000*

Intensive use of soils and efforts to increase its productivity is connected with use of fertilisers and chemical preparations, which leads to **problem of contamination of agricultural soils**, which became important in particular in 1970s and 1980s. In the 1985-1993 period, the use of fertilisers decreased six times and use of pesticides was also reduced considerably. At present there are good preconditions to gradually remove contamination of soils and groundwater caused by intensive plant production. Although recently application of chemical substances in agriculture is increasing again, it is occurring at acceptable level (Table 47). Contamination of agricultural soils in the recent period was connected also with large-scale livestock farming, however, volume of animal production has decreased since 1990 (sharp decrease of cattle, pigs and sheep).

*Table 48 Amount of applied chemical substances and preparations on soils*

	1990	1992	1994	1995	1996	1997	1998	1999
Use of industrial fertilisers (kg per ha of soil)	239.1	63.9	42.0	45.0	48.9	57.0	55.9	40.1
Use of pesticides (kg per ha of soil)	1.93	1.01	1.79	2.63	1.59	1.44	1.52	1.21

*Source: Ministry of Soil Management (2000) and Statistical Yearbook*

The most important form of soil destruction on the territory of Slovakia is **soil erosion**. **Water erosion** is fixed mainly to agricultural soils, in particular on intensively cultivated highland and submontane areas with steeper slopes used as arable land (absence of anti-erosion measures, inappropriate crop structure). Proneness to erosion is increased also by adverse physical properties of the soil, soil structure and low content of humus. Mechanical degradation of soil, caused by erosion of pastures in mountain areas, and erosion in intensively used areas of forestry also play an important role. Water erosion potentially threatens 1,361 thousands ha of agricultural soils (57.5%), of which as much as 450 thousands ha (19%) of soils are threatened by extreme water erosion. Average annual loss of the most fertile soil (top soil) is 2.8 - 3.0 million tonnes (Table 48).

**Wind erosion** damages in particular the areas without vegetation with sandy soil, first of all in dry periods of the year. Wind erosion threatens approximately 390 thousands ha of soils (16.5%), in particular in lowlands, while extreme erosion endangers 1.3% of agricultural soils, high wind erosion intensity is on 0.4% and middle erosion intensity on 4.8% of soil area.

*Table 49 Potential erosion of agricultural soils by administrative regions of Slovakia*

Administrative region	2 <sup>nd</sup> category		3 <sup>rd</sup> category		4 <sup>th</sup> category		Total	
	ha	%	ha	%	ha	%	ha	%
Bratislava	12,064.2	13	3,235.1	4	3,037.7	3	92,146	20
Trnava	44,110.8	15	17,245.0	6	5,881.5	2	287,854	23
Trenčín	35,743.8	20	42,764.1	24	48,294.7	27	177,330	72
Nitra	98,011.5	22	39,515.7	9	14,516.7	3	451,942	34
Žilina	43,982.7	18	55,121.0	22	108,716.0	44	248,556	84
Banská Bystrica	87,912.4	22	97,217.5	24	124,640.0	31	401,531	77
Prešov	89,231.7	23	136,971.0	36	113,415.0	30	384,448	88
Košice	64,727.6	20	43,110.2	13	31,343.6	10	324,493	43
<b>Slovakia total</b>	<b>475,784.6</b>	<b>20</b>	<b>435,180.0</b>	<b>18</b>	<b>449,845.0</b>	<b>19</b>	<b>2,368,301</b>	<b>57</b>

Source: VÚPOP Bratislava

**Soil compaction** is a relatively wide-spread degradation of soil. It appears on almost all agriculturally intensively used areas of lowlands and depressions. It is a consequence of pressure on the sub-surface layer of soil caused by long-term use of heavy machinery. According to VÚPOP Bratislava data approximately 192 thousands ha of soils are compacted and roughly the same area is prone to compaction (457 thousands ha, 18.7% of agricultural soil).

**Pollution of soils with immissions** from air, soil acidification and contamination with toxic substances is an accompanying phenomenon of the human economic activities. The long-range transfer of emissions in the form of acid rains was leading in 1970s and 1980s to considerable acidification of soils, change of their chemical character and processes and to accumulation of harmful substances. The most harmful substances damaging soils, which cumulate in soils, are SO<sub>2</sub>, NO<sub>x</sub>, CS<sub>2</sub>, F, Pb, Cd, As, Ti, Ni and organic compounds. The long-range emissions damaged mostly the areas of the northern and middle Slovakia, surroundings of large industrial plants as well as the areas of magnesite production and cement and lime works.

28.7% of the Slovak territory constitutes a moderately contaminated soil. More than 45 thousands ha of agricultural soils (1.8% of area) are polluted over acceptable limits. These soils are polluted mainly with heavy metals, which leads to contamination of food chain.

Based on monitoring of soil properties, it is possible for the current stage to generalise some adverse trends in soil properties – e.g. worsening of physical properties of soils (in particular black soils, brown soils), reduction of humus content and content of nutrients and moderate soil acidification.

**Soil management and protection** in Slovakia is under responsibility of the **Ministry of Soil Management**. Main activities causing threats to soils belong to sectors of soil management (mainly agriculture), economy, (industry), transport, construction and

regional development. The local state administration is ensured by **Regional Offices and District Offices**.

The **Research Institute of Soil Science and Soil Protection** (VÚPOP) seated in Bratislava is a professional organisation dealing with monitoring and assessment of the state and quality of agricultural soil. In the case of forest soils this role is played by the **Forest Research Institute** in Zvolen and **Lesoprojekt** Zvolen.

**Rational use and protection of soil** is regulated by the **Act 307/1992 on protection of agricultural soils** as amended by the Act 83/2000. Its aim is to maintain and enhance natural properties of soil and its rational use. The Act deals with conflict of interests of agricultural soil protection and other developmental plans, defines mechanisms to protect production abilities of the soil. **Protection of forest soil** is a subject of the **Act 61/1977 on forests** as amended by further regulations and the **Act 100/1997 on forestry and state administration in forestry**.

The **Act 330/1991 on land adjustments**, adjustment of land ownership, land authorities, land fund and land communities as amended by further regulations deals with procedures to solve land ownership issues, including preparation of land adjustment projects, which should solve issues of rational arrangements of soils.

Main tools of application of protection and rational use of soil resources should be **land adjustment projects** in accordance with this Act and **forest management plans** in forests prepared in accordance with the Act 100/1977.

The **Conception of Protection and Use of Agricultural Soil** (Strategic Orientation) is a basic policy document in the soil management sector related to use and protection of soil. Under this conception the **State Soil Policy** and a new Act on soil protection are under preparation. They should contribute to more rational utilisation of soil and soil resources. The **Conception of Agrarian and Food Policy till 2005, Programme of Agriculture and Food Industry Development till 2010** are other policy documents of the soil management sector.

The Act 83/2000 laid down when it is necessary to determine adjusted **regimes of soil use**, i.e. to designate **special management system**, in order to properly use, protect or avoid threatening of agricultural soil. In accordance with the Article 7 of this Act, special protection is provided to agricultural soil of the highest quality, fruit orchards, vineyards, hopyards and agricultural soils with melioration and other measures carried out in order to maintain or increase fertility or other functions. Permanent or temporary use of agricultural soil for non-agricultural purposes is connected with obligation to provide payments to the State fund of protection and improvement of agricultural land. This obligation is governed by the Regulation of the Government 152/1996 on basic rates of payment for take of agricultural land as amended by the Regulation of the Government 188/2000. According to production potential the agricultural soil are categorised to 9 quality groups and rates of payment are categorised accordingly (SKK 11,300 per hectare for soils with the highest production potential). Besides the protective soils the Act also defines a notion of **contaminated and threatened soils**, where adjusted regimes of soil use should be applied (special management system).

The **Chapters 12 (programming area B) and 14 (programming area D,E) of Agenda 21** deal with issues of soil and soil resources. Development of quality and use of soil and soil resources in relation to sustainable development is necessary to assess from two aspects:

- quantitative trends in development of soil resources – area and use of soil for production purposes,

- qualitative aspects of development of soil resources – soil degradation due to physical and chemical damage.

A basic principle of sustainable development in the case of soil resources should be such a management, which responds to concrete soil and ecological conditions and which does not lead to degradation processes. Use of soil should be accompanied by protection of non-production functions of soil.

Rational arrangement of soils, taking into account site conditions and soil properties, is the basic precondition of sustainable development of soil resources. **Development of soil area** and its use leads to permanent loss of agricultural soil, while area of forest land is increasing. By 2010, further ca 4% decrease of agricultural soil area is expected, when compared to the current situation. Share of arable land should be substantially decreased (by 13%), while the share of grassland should be increased (by 12%). Area of forest soil should be increased by 2010 up to 2,050 ha (by 2.6%). Transfer of soil from agricultural to forest use in principle does not threaten the production potential, it even considerably strengthens the non-production functions. For achievement of sustainable development it is not favourable that **area of built-up and other sites should be increased by 2010** by more than 11% - up to 410.5 thousands ha, as compared to the current 368.4 thousands ha.

From the point of view of **development of soil quality**, the situation in recent decade can be assessed as relatively stabilised. After excessive pressures on production functions of soil in 1970s and 1980s, which was connected with physical destruction of soils, excessive use of chemical substances and soil acidification (synergetic influence of agriculture and industry), the situation after 1990 has relatively improved. Area of polluted soils is relatively stable, however, **adverse production properties of a part of agricultural soils still exist** (reduction of humus and nutrients, moderate soil acidification, worsening of physical properties).

Integrating principle of dealing with conflict of interests related to soil resources is the institute of so called **protective and threatened soils** (according to the Act 307/1992 on protection of agricultural soils). The protective soils should fulfil along with production function also the function of protection of other natural resources. These soils represent in Slovakia 240,000 ha. Threatened soils constitute a group of soils with negatively modified properties, potentially adversely affecting other components of the environment. **Harmonisation of production functions of soil** (in particular agricultural soils) with requirements and needs to maintain its other functions and functions of other natural resources closely relates to this issue. Application of **special management systems** is regulated in the Act 83/2000, which since January 2001 deals also with compensations for production losses. Objective is an overall restructuring of use of soil potential in Slovakia (**comprehensive soil management strategy**).

Need of more efficient legal and real support of **alternative (organic) farming** appears in this relation. This way of farming is well-founded in territories with prioritised non-production functions and limitations for intensive plant and animal production.

**Sustainable use of soil resources should integrate the production function of soils with non-production functions and potential as well as with limits of other natural resources.** In the future it will be necessary to consider the probable impacts of global climate change on the production function of soils.

### 3.5.6 Biosphere – biological conditions

As regards flora, the territory of Slovakia includes three main **phyto-geographical units** – the area of the Western Carpathian flora, the area of the Eastern Carpathian flora and the area of the Pannonian flora. Despite the strong impact of the man in recent decades, the vegetation of Slovakia is relatively maintained – forests cover more than 40% of the area. Sub-alpine and alpine vegetation is natural, spruce and beech vegetation levels have natural vegetation or vegetation close to the nature (with partially modified species composition of forest woody plants). Overall, it can be stated that more than a half of the Slovak territory is covered by natural or nature-close vegetation.

**Vegetation of Slovakia** constitutes a natural heritage with irreplaceable gene pool. Primary and secondary vegetation with its diversity and relatively conserved state on a small territory creates conditions for conservation of rare and threatened plant and animal species. Plant communities with soil protective and water management functions on watershed of the European rivers outreach the Slovak Republic, as far as their importance is concerned. Vegetation structures through their regenerating and revitalising potential are pre-condition of evolutionary processes and conditions for maintaining the threatened, vulnerable and rare plant species and communities.

High biodiversity is a result of specific habitat conditions and impact of human activities. When human activities are disappearing in a certain territory, plant species and communities start to develop towards potential structure and floristic composition. This development (accompanied with deepening and strengthening of ecological relationships and decrease of biodiversity) is in our conditions oriented to creation of forest communities. In order to protect biodiversity it is necessary to regulate human activities in certain territories – from this point of view, for instance, afforestation of non-production areas needn't always lead to the increase of ecological stability and landscape biodiversity.

Rich and diverse flora of Slovakia is determined by diversity of natural conditions. There are more than 11,270 plant species in Slovakia, of which there are more than 8,000 species of cryptogams (lower plants) and ca 3,124 higher plant species. There are 3,450 taxa of blue-green algae and seaweed, more than 3,000 taxa of fungi, ca 1,500 taxa of lichens and ca 900 taxa of bryophytes. 3,124 species in 905 genera are registered for individual families of higher plants. Most of statistics on species diversity of the Slovak flora provide data on estimated number of higher plant species at 3,500 species. In areas important from floristic point of view the number of species ranges from 30% to 40% of the total number of species, which are known on the Slovak territory (the Slovak Karst – 1,462 species, the Záhorie Lowland – 1,200 species, Devínska Kobyla – 1,570 species, the Muráň Plain National Park – 1,150 species, Tatra National Park – 1,400 species, the Eastern Carpathians – 970 species). The list of endemic taxa contains 40 endemites bound to the Slovak territory, i.e. 1.6% of the total number of species, and other endemic species (including those critically threatened), which occupy a broader territory (8.6% totally). According to the IUCN categorisation, there are 92 endemites in Slovakia, i.e. 3.68% of the Slovak flora.

Slovakia belongs to the Euro-Siberian sub-area of animals. **Animal communities**, which are bound to the main habitat types (e.g. forests, meadows, fields, water, etc.), have developed depending on historic development and landscape use.

According to the current estimates the Slovak fauna involves more than 40,000 animal species, of which there are 31,000 species of insect. Taking into account the

lack of specialists, the ecosozological state of fauna could not be assessed in some of groups, or has been assessed insufficiently. Of the proofed 28,603 species of fauna in Slovakia there are 22.7% of beetles, 16.2% of dipterous insects, 15% of hymenopterous and 14% of butterflies (totally more than 67% of all species of fauna). This number should be considered to be only rough, because research of individual animal species is not comparable. Species diversity in several species grows together with research. Chordates are the most known (1.9% of the Slovak fauna). Number of their species is 555 (85 species of mammals, 352 species of birds, 20 species of reptiles, 20 species of amphibians and 78 species of fish).

**Forest ecosystems** constitute an irreplaceable component of the environment, they represent renewable resource and economic resource. Usefulness of forests depends on economic development of a country, way of life and needs of its inhabitants.

Area of forests and timber reserves have increased (Table 46, 49). While in 1990 the forest area in Slovakia was 1,976 thousand ha and timber reserves 348.5 million m<sup>3</sup> (i.e. 189 m<sup>3</sup> per ha of forest soil), in 1999 the forests covered 1,992 thousand ha and timber reserve 403 million m<sup>3</sup>, i.e. 202.3 m<sup>3</sup> per ha. The forest coverage increased during last decade by 0.81%, timber reserve increased even by 15.6%. While in 1990, coniferous timber was prevailing (51.3%), in 1998 there was prevalence of leafy timber (share of coniferous timber decreased to 49.2%).

Timber is an important resource for the Slovak economy. **Timber harvesting** is a decisive source of income for forestry (in 1998 – 73.5% of incomes without subsidies), but on the other hand also the most important activity from the point of view of impacts on forest ecosystems. Volume and way of harvesting are the determining indicators from this point of view. Harvesting development in 1990-1999 is presented in the Table 49. In the 1990-1999 period, the timber harvesting increased by 9.82%, in 1998 it decreased approximately by 10% to the amount of 5,533 thousand m<sup>3</sup>. The current total annual prescribed harvesting is 5,070 thousand m<sup>3</sup>, it will be probably slightly increased in the future due to age structure of forest vegetation. Higher real harvesting, as compared to the prescribed level, is being reached due to processing of calamity timber from accidental harvesting.

The burden level of forest vegetation caused by harvesting activities can be partially expressed in the form of share of **clear cutting harvesting system**. In the past, this system used to be dominant, since 1990 its share has been decreasing – in 1990, this way of harvesting accounted for 84.5% of harvesting, since 1995 it is 40-50% (in 1998 it was 42.9% and in 1999 it dropped to 24.2%). The share of underwood way of harvesting is increasing. The share of selective way of harvesting is not changing substantially (Table 49).

**Proportion of harvesting to timber increase** is a proper indicator of exploitation rate of forest resources. This proportion in the recent decade ranges mostly from 40% to 55% with an increasing trend (in 1997-1998, harvesting accounted for 54.4% of annual timber increase, in 1999 this figure dropped to 52.0%).

Besides timber the forests provide other useful products (e.g. forest animals, forest plants, medicinal herbs, Christmas trees, forest seeds, seedlings). Most of these resources are used insufficiently at present.

*Table 50 Development of forest area, timber reserves and timber harvesting indicators on the territory of Slovakia (1990-1999)*

Indicator		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Area of vegetation soil	thousand ha	*	1,922	1,815	1,928	1,843	1,843	1,845	1,920	1,847	1,921
Forest area	thousand ha	1,976	1,979	1,986	1,985	1,989	1,988	1,988	1,990	1,998	1,992
Forest coverage	%	40.4	40.4	40.5	40.5	40.6	40.6	40.6	40.6	40.6	40.6
Forest area	ha per inhabitant	0.38	0.38	0.38	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Timber reserve	million m <sup>3</sup>	348.5	352.7	358.0	366.0	371.7	377.5	383.7	390.9	396.0	403.0
Timber harvesting	thousand m <sup>3</sup>	5,275	4,429	4,048	4,185	4,910	5,323	5,459	5,944	5,533	5,793
Real annual harvesting	m <sup>3</sup> .ha <sup>-1</sup>	2.72	2.26	2.09	2.16	2.54	2.76	2.83	3.08	3.13	3.01
Total average timber increase	m <sup>3</sup> .ha <sup>-1</sup>	5.44	5.43	5.41	5.38	5.47	5.63	5.21	5.66	5.75	5.79
Proportion of harvesting to timber increase	%	50.0	41.6	38.6	40.1	46.4	49.0	54.3	54.4	54.4	52.0
Clear cutting harvesting	%	84.5	76.8	68.1	46.3	60.6	48.8	39.7	52.4	42.9	24.2

*Source: Statistical Yearbook, Ministry of Soil Management, State of the Environment Report, 1999 (Ministry of the Environment)*

**Biomass** represents the most important alternative energy source in the Slovak Republic. The total energy potential of biomass has been calculated at the level of 9,178 GWh per year, which constitutes as much as 32.9% share in the sum of all alternative energy resources. The most important sources of biomass are wastes from wood-processing industry (approximately 40% of biomass potential), forestry (30% of potential - fuel wood, wooden wastes, energy vegetation), agricultural biomass (20% of potential) and municipal wastes (approximately 6.5% of potential).

**Energy from biomass** belongs to relatively well used alternative energy resources in Slovakia. Totally 2,727 GWh of energy (9,817 TJ) were produced in 1997. Energy from biomass accounted for almost 40% of energy produced from alternative energy resources (29.7% of potential was used). The biomass energy is currently being used mainly for production of heat energy. An exemption is gas from excrements of livestock and sludge from waste water treatment plants, which is used to produce electric energy and as bio-oil for mobile machinery. Growth of use of biomass energy potential will be oriented to production of heat energy also in the future. Excessive use of biomass, however, can disturb, for instance, the natural forest rehabilitation or the natural material and energy cycles in agricultural landscape.

**Damaging and threatening of biota and biodiversity** is an accompanying phenomenon of human activity in the landscape. Consequences include loss of habitats, decrease of ecological stability, introduction of species, damaging of biota due to air and water pollution, inappropriate localisation of activities in landscape, climatic changes, intensification of agricultural production, violation of legislation, etc..

**Threats to biodiversity of animals and plants** are expressed in the form of so called **Red Lists**. Of the total species diversity of higher plants 35-37% of taxa are mentioned in various categories of threat, while in neighbouring countries this figure is approximately 40%. Majority of critically endangered species of flora in Slovakia comes from habitats, which are globally threatened in the whole Central Europe (peat bogs, wetlands, flooded meadows, salt marshes, sands). Species sensitive to eutrofication in watercourses and water reservoirs are also disappearing. Special attention is paid to protection of orchid family plants. More than one third of autochthonous plant species and archaeophytes are at various levels of threat. Generally, the most effective protection is the *in-situ* protection, within the natural community in the original habitat. The **Red Book** for the Slovak Republic presents information on 334 critically endangered and rare taxa. It also includes a so called **Black List of Extinct, Missing Taxa and Unclear Cases** which includes 25 extinct taxa, 35 missing taxa and 77 critical cases.

The issue of invasive organisms relates to biodiversity threat in the global and regional scale. Approximately 160 species are considered to be invasive in Slovakia, which accounts roughly for 5% of species diversity (for the Central European countries this figure is estimated at 10-15%). These species take part in reduction of biodiversity of natural plant associations and negatively affect human health.

*Table 51 Survey of knowledge and plant threat*

Groups	Number of species	Endangered* number	Endangered %
higher plants	3,352	1,181	35.2
bryophytes	905	516	57.0
lichens	1,508	596	39.5
fungi	3,764		
blue-green algae and algae	12,518		

*Table 52 Survey of knowledge and animal threat*

Groups	Number of known species	Endangered* number	Endangered %
mammals	86	86	100
birds	352	219	62,2
reptiles	20	12	60,0
amphibians	21	18	85,7
fish	78	45	57,7
achordates	> 21,217	3,549	16,7

*Category "endangered" includes extinct (Ex), endangered (E), vulnerable (V), rare (R), undetermined (I) and insufficiently known (K)*

Evaluation of **plant associations** is determined in particular by presence of rare and endangered species. Under the current pressure on the natural environment an opinion prevails that scarcity of plant communities and species is connected with a high level of threat. Autochthonous and natural plant associations of the Western Carpathians are important for Slovakia due to their uniqueness. Of the endangered,



vulnerable and rare associations and communities (more than a half), almost 26% are very rare and critically endangered, more than 5% are rare and critically endangered, more than 18% are very rare and vulnerable and more than 29% are rare. Approximately 2% of communities are disappeared or probably disappeared.

Alarming situation is as regards in particular **chordates**, where approximately **two thirds of species are threatened** to a certain degree and 8.5% of original fauna disappeared. In other groups the situation is slightly better because majority of achordates is not directly threatened (hunting, collection). It is, however, necessary to say that for all animals there is a priority requirement to ensure protection of their habitats, that is sufficiently large and maintained territories, where they can live and reproduce.

Of the total number of 85 species of mammals living on the Slovak territory, 65% are endangered, of 352 species of birds there are 32% endangered, in the case of reptiles and amphibians all species are endangered and of 78 fish species 45% are endangered. Of supposed 28,000 species of achordates 18% are endangered. Endemic animals include in particular the Carpathian endemites, which are divided into 102 taxa (most of them are achordates).

The threat level of protected plants and animals, species and sub-species of which are permanently found in the wild nature of Slovakia, is presented in Tables 52 and 53, according to Annex 1 to the Decree of the Ministry of the Environment 93/1999.

*Table 53 Threat level of protected plants (in accordance with the Decree of the Ministry of the Environment 93/1999)*

Number of protected plants and threat level	a	b	c	of that in accordance with the Bern Convention	total	of that together
Higher plants	68	270	343	a7, b36, c37	681	80
Bryophytes						
liverworts	5	0	0		20	0
mosses	11	4	0		15	0
Lichens	2	17	1		20	0
Fungi	12	21	19		52	0
Algae	0	2	3		5	0
Total	98	314	366	80	793	80

*a - endangered, b -very endangered, c - critically endangered; R - Bern Convention  
Source: Hrnčiarová, 2000*

*Table 54 Threat level of protected animals (in accordance with the Decree of the Ministry of the Environment 93/1999)*

Number of protected animals and threat level	a	b	c	of that in accordance with Conventions				total	in accordance with Conventions total
				R	BR	WR	WBR		

<i>Achordates</i>									
<i>Gastropoda</i> - gastropods	3	6	15					24	
<i>Bivalvia</i> - bivalves	0	1	1					2	
<i>Annelida</i> - annelids	0	2	2			<i>b1</i>		4	1
<i>Araneae</i> – spiders	0	0	17					17	
<i>Pseudoscorpionida</i>	0	0	3					3	
<i>Opiliona</i>	0	0	1					1	
<i>Crustacea</i> - crustaceans	5	2	2	<i>a1, c1</i>				9	2
<i>Ephemeroptera</i> – ephemerids	5	7	6					18	
<i>Odonata</i> – dragonflies	4	7	10	<i>b1, c3</i>				21	4
<i>Plecoptera</i> - stoneflies	1	5	6					12	
<i>Dermaptera</i> – earwigs	2	0	0					2	
<i>Mantodea</i> – praying mantises	0	1	0					1	
<i>Orthoptera</i>	4	2	8	<i>c1</i>				14	1
<i>Homoptera</i>	0	2	4					6	
<i>Neuroptera</i>	0	1	2					3	
<i>Hymenoptera</i>	10	1	4					15	
<i>Trichoptera</i> - caddis flies	4	8	4					16	
<i>Coleoptera</i> – beetles	26	51	35	<i>a5, b1</i>				112	6
<i>Lepidoptera</i> – butterflies	25	14	20	<i>a5, b2, c5</i>		<i>c1</i>		59	13
Achordates total	89	110	140	25		2		339	27
<i>Chordates</i>									
<i>Petromyzonidae</i> – lampreys	0	0	3	<i>a2</i>				3	2
<i>Pisces</i> – fish	1	8	9	<i>a1, b12, c6</i>				18	15
<i>Amphibia</i> – amphibians	3	12	3	<i>a3, b12, c3</i>				18	18
<i>Reptilia</i> – reptiles	3	6	3	<i>a3, b6, c3</i>				12	12
<i>Aves</i> – birds	217	57	39	<i>a84, b15, c5</i>	<i>a101, b26, c16</i>	<i>a8, b6, c3</i>	<i>a21, b10, c15</i>	313	310
<i>Mammalia</i> – mammals	24	20	13	<i>a10, b8, c8</i>	<i>a13, b8, c3</i>	<i>b2, b2<sup>+</sup></i>	<i>c1, c1<sup>+</sup></i>	57	56
Chordates	248	103	70	177	167	23	46	421	413

*a* - endangered, *b* - very endangered, *c* - critically endangered species; *W* - Washington Convention, *B* - Bonn Convention, *R* - Bern Convention; <sup>+</sup> separate Washington Convention  
Source: Hrnčiarová, 2000

**State of forests in Slovakia is disturbed**, mainly due to immissions and other damaging factors. Persisting damages in forest ecosystems led to their gradual degradation and deterioration - 85% of forests had symptoms of damage in 1989.

Data on the health state of forests can be summarised as follows:

- **High concentration of ground level ozone** from the point of view of vegetation appears repeatedly in altitudes above 250 m, that is on the majority of forest area in Slovakia.
- **Level of acid deposition in forests and forest soils** is still high despite decrease achieved in recent years. Although there is a sufficient amount of nutrients in forest soils, they are affected by acid depositions. Results confirm relatively high burden by heavy metals not only in surroundings of immission sources, but in broader territories in higher altitudes without immission sources in vicinity. Burden to forests caused by immissions is usually expressed in the form of so called **forest immission deposition types (IDT)**. Three main IDT types (acid, alkaline and ammoniacal) and eight sub-types have been defined on the Slovak territory. In 1997, there was 91.7% of forest area classified as IDT acid with ash, 1.2% as IDT acid with ash and with chlorine and fluorine compounds, 2.5% as IDT acid with dense dust and 3.1% as IDT acid with organic compounds. Alkaline IDT accounted for 1.2% (of that 0.7% of magnesite and 0.5% of cement type) and ammoniacal IDT for 0.3%.

Within the acid and alkaline immission type there are **four zones of threat (A to D)**. There is an alarming trend that since 1992 the share of vegetation in endangered zones A to B is still growing - in the A zone from 1,768 ha in 1992 to 7,444 ha in 1998 (increase by more than four times) and in the B zone from 10,164 ha to 25,517 ha (increase by two and half times). Data on growth of immission burden in the Slovak forests are presented in Table 55.

Different development, as compared to previous indicators, is in **defoliation of forest wooden plants**. Share of vegetation with middle damage decreased from 32% in 1990 to 29% in 1998, decreasing trend, however, exists since 1994. Share of vegetation with strong to very strong defoliation decreased from 7% in 1990 to 3% in 1998.

The current adverse health state of forests is to a certain extent caused also by a character of forest management in the past - prevailing large-scale clear cutting, preferring mono-cultures in renewal of vegetation, large interventions during building of forest road network, contamination of forest soils with oil. Other factors worsening the health state of forests include **wind, drought, snow, fires and natural pests**.

*Table 55 Immission burden to forests (share of individual zones of threat)*

Year	Total (ha)	A		B		C		D	
1990	86,457	6,857	0.4	20,571	1.0	58,969	3.0	*	
1992	55,101	1,768	0.1	10,164	0.5	35,579	1.8	7,589	0.4
1994	188,143	2,135	0.1	25,029	1.3	82,172	4.1	77,804	3.9
1996	428,850	5,318	0.3	15,963	0.8	150,275	7.6	247,564	12.5
1998	638,004	7,444	0.4	25,517	1.3	204,669	10.2	400,374	20.0
1999	754,615	9,160	0.5	26,383	1.4	243,180	12.7	475,892	24.8

*A - strong immission burden (lifetime of vegetation up to 20 years), B - strong immission burden at more favourable site conditions (20-40 years), C - lower immission burden (40-60 years), D - low immission burden (60-80 years), \*Only three zones of threat were defined in 1990.*

*Source: Maňková, 2000*

**Diseases and perishing of some of forest wooden plants** are important phenomena - on the Slovak territory 92% of elm and 41% of firs perished in the longer term horizon, while in recent years as much as 15% of spruces, 11% of oaks and 10% of pines died. High share of coniferous and leafy wooden plants is damaged, their health state is worsened and they are therefore more sensitive to natural disasters. Forest damage by selected factors (biotic, abiotic factors and fires) has a declining tendency after 1990. 44-57 thousand ha of forests were damaged by these above mentioned factors in 1991-1994, in 1995-1997 it was only 19-30 thousand ha of forests and in 1998 it is indicated that only 2.73 thousand ha of forests are damaged.

The **share of accidental harvesting** in total timber harvesting is another important indicator related to health state of forest vegetation and occurrence of damaging factors. This share is very high in the Slovak forests - it permanently ranges over 40%: in the 1991-1994 period it was growing even to 60.4%. High share persisted also in the 1995-1997 period (56-59%) and only in 1998 the share of accidental harvesting dropped to 42%.

The **share of natural renewal of forest** is an indicator of vitality and health state of forest vegetation. It is positive that since 1990 it has been growing - from 8.6% in 1990 to 16.84% in 1999. **Wood species composition of forest vegetation** and its closeness to natural or target state is a long-term indicator of rate of affecting the forest by economic activity. Leafy wooden plants were prevailing in the original composition of forest (79.3%). At present, the share of leafy wooden plants is much lower - 59%. Share of the main leafy wooden plants (oak, beech) and fir decreased due to a long-term preferring of spruce and other coniferous wooden plants (pine, larch). The biggest share is currently constituted by beech (30.9%), followed by spruce (26.9%) and oak (13.9%).

Selected indicators of the current state of forest vegetation are presented in Table 55.

The **Ministry of the Environment** is a competent state administration body in protection of biota and biodiversity and the **Ministry of Soil Management** in the area of use and protection of forest resources. Main activities causing threats to biotic and forest resources are under responsibility of sectors of soil management (agriculture, forestry and water management), economy (industry), transport, construction and regional development.

**Regional Offices and District Offices** ensure local state administration. Monitoring and assessment of state of biota and biotic resources are carried out by the State Nature Protection of the Slovak Republic, the Slovak Environmental Agency, the Forest Research Institute and Lesoprojekt.

**Table 55 - Selected indicators of health state of forests**

Indicators		1990	1992	1994	1995	1996	1997	1998	1999
Share of natural renewal	%	8.6	8.9	9.1	8.9	10.5	12.7	13.5	16.84
Share of accidental harvesting	%	49.4	44.0	60.4	56.1	58.9	57.1	42	45.5
Damage of trees – defoliation of 2 <sup>nd</sup> degree	%	34	27	36		36		29	26
Damage of trees – defoliation of 3 <sup>rd</sup> – 4 <sup>th</sup> degree	%	7	7	6	5	4	3	3	2
Forest damage by fires	ha	27	222	6	86	54	37	32	19
Forest damage by biotic factors	thousand ha	45.8	42.2	42.5	14.5	24.6	17.2	2.2	2.3
Forest damage by abiotic factors	thousand ha	43.9	3.6	4.9	4.5	5.4	6.8	0.5	1.6

*Source: State of the Environment Reports, 1993-1999 (Ministry of the Environment), Ministry of Soil Management*

Protection of forests (forest wooden plants) is regulated by the **Act 61/1977 on forests** as amended by further regulations. The Act defines the notion of forest vegetation management and lays down obligations of forest users.

Protection of nature and biodiversity has been set out in the **Act 287/1994 on nature and landscape protection**, which also includes **protection of plant and animal species and protection of wooden plants and important trees**. From the point of view of protection biotic resources, the most important implementing regulations include the **Decree of the Ministry of the Environment 93/1999 on protected plants and animals and on social evaluation of protected plants, protected animals and wooden plants**, which amends the lists of protected plants and animals, determines threat level and their social value. Practical protection should be carried out also through meeting the objectives and measures of the **National Strategy of Biodiversity Protection in Slovakia**, which was adopted by the Resolution of the Government 676 of 2 July 1997. The **Action Plan for Implementation of the National Strategy of Biodiversity Protection in Slovakia for 1998-2010** was in 1999.

Priorities and principles of forest management in Slovakia have been declared in the following documents: **Strategy and Conception of Forestry Development in Slovakia** (1998), **Draft Conception of Forest Policy till 2005** (2000) and **Forestry Development Programme till 2010** (2000). Main tools for application of protection and rational use of forest resources are the above mentioned **forest management plans**.

Adoption and amendment of several Acts and related regulations is expected in relation to transposition of the EU law. In the area of biota and biodiversity protection the amendments are oriented to protection of wild birds and natural habitats, international trade in endangered species (CITES) and system of control of import of products from animals.

In the area of forestry this concerns mainly adoption of a **new Act on forests** and amendments to legally binding regulations related to the Act, adoption of the **Act on hunting**, amendment to the **Principles of Forest Policy and Strategy and Conception of Forest Development in Slovakia**, implementation of the programme

oriented to energy and other use of biomass in forestry according to the conception under preparation.

For the sake of ensuring the public functions of forests, categories of **protective forests and forests of special purposes** (defined in the Act 61/1977 on forests as amended by further regulations) have been created. Anti-erosion, water management, anti-avalanche, river bank protection and anti-deflation functions should be strengthened in *protective forests*. *Forests of special purposes* are aimed at meeting the functions of nature protection, water protection, recreation, balneal and curative functions, anti-immission, hunting and educational (altogether 37 function types) functions.

Area of forests included in the categories of protective forests and forests of special purposes was gradually increasing, as compared to economic forests (see Table 56). During the 1960-1998 period, area of protective forests increased from 5.7% to 15.7%, area of forests of special purposes from 7.9% to 16.6%, while the share of area of economic forests decreased from 86.4% to 67.7% (data from the Ministry of Soil Management).

*Table 56 Development of forest categorisation in Slovakia*

		1960	1970	1980	1988	1991	1994	1996	1998	1999
Forest area	thousand ha	1,785	1,850	1,912	*	1,979	1,989	1,988	1,998	1,991
Economic forests	%	86.4	77.5	77.3	74.5	73.4	68.2	67.3	67.7	66.4
Protective forests	%	7.9	6.4	9.9	13.3	13.5	14.7	15.2	15.7	15.5
Forests of special purposes	%	5.7	14.0	10.1	8.9	13.2	14.9	16.1	16.6	18.1

*Source: Green Report on Forestry, 1997, 1999 (Ministry of Soil Management)*

Recently, the area of forests of special purposes has significantly increased due to special social demands (their area increased by 8.9% during the 1988-1998 period).

The Act 287/1994 on nature and landscape protection regulates **protection of plant and animal species**. The current state is determined by the above-mentioned Decree of the Ministry of the Environment 93/1999. Situation in this area is presented in Tables 52 and 53.

Besides the mentioned protection, legal instruments of the Ministry of Soil Management lay down also protection of bees (regulation of use of chemical preparations), wild animals (limitation of hunting right, protection of wild animals against adverse impacts are legislatively defined), fish and other aquatic animals (**protected fish areas** are defined).

**Protection of genetic resources of plants**, which is one of the priorities of the soil management sector, relates to the issues of biota and biodiversity protection. The Gene Bank has been established to protect genetic resources of plants, which started its activities 1 January 1997. It is closely connected with the National Programme of Protection of Gene Pool of Cultural Plants in the Slovak Republic. Maintenance of genetic diversity provides conditions to enhance quality of

agricultural production, reduction of production inputs and overall decrease of production costs and contributes to food safety of the nation. Slovakia tries to protect genetic resources of plants in favour of sustainable development, ensure access to these resources and at the same time create legislative framework against misuse for undesirable objectives and activities. Without food safety and related protection of plant genetic resources for nourishment and agriculture the sustainable development is not met. This is in accordance with the Draft Conception of Agrarian and Food Policy till 2005, where food safety is a primary and strategic objective.

The issues of biota, biodiversity, forest resources and genetic diversity are included in the **Chapters 10, 11 (programming area A-D), 12 (programming area B), 14 (programming area G) and Chapter 15 and Chapter 32 of Agenda 21**. Sustainable development of forests and other biotic resources can be assessed on the basis of these main assumptions:

- long-term maintenance of forest vegetation, their enhancement and rational use connected with maintenance and support of non-production functions,
- economical and sustainable use of renewable biotic resources instead of use of non-renewable resources,
- conservation and enhancement of important biotic values (species and communities of plant and animals) and efficient biodiversity protection.

Objective of forestry should be conservation of biological diversity, production and regeneration abilities, abilities to fulfil ecological, economic and social functions without damaging the other ecosystems.

In this relation **some trends in forest development in Slovakia can be assessed positively**. Total area of forests is increasing, while their structure is changing in direction to higher quality (considerable decrease of economic forests providing opportunities to prioritise public functions over production functions). Species composition of wooden plants is being gradually changed in favour of more natural representation of the main wooden plants; vegetation reserves of forests are increasing (since 1950 to a double level). The way of forest management is also substantially changing – the share of clear cutting is decreasing and the share of underwood renewal is increasing. According to the WWF data, **Slovakia ranks after Sweden and Switzerland as far as the level of forest preservation is concerned**.

Due to adverse economic impacts (in particular before 1990), however, from the point of view of sustainable development some adverse impacts persist in forest ecosystems – **disturbed health state of forests, first of all as consequence of immission impacts and high share of accidental harvesting** in total timber harvesting.

Conservation of **gene pool and biodiversity** is one of the preconditions of life on the Earth and sustainable development of the human community. It is given an extraordinary attention not only in global scale, but at national level as well through the Ministry of the Environment of the Slovak Republic (in particular in the form of the National Strategy of Biodiversity Protection in Slovakia and its action plan).

The current state of biodiversity protection on the Slovak territory is a result of a long-term development of land use and consequences of economic activities on one hand, and practical activities and results of biotic research and biodiversity protection on the other hand. Negative impact of anthropogenic pressure on plants and animals manifested in the **weakening of their populations and reduction of biological diversity**, including extinction of several species. At present, as much as 36% of 3,000 higher plant species are endangered, of 5,400 lower plant species (except for

algae and blue-green algae) approximately 22% are endangered, of 470 species of wild vertebrates as much as 40% are endangered and expected threat to invertebrates (more than 28,000 species) is 18%. Despite that, the territory of Slovakia still can be considered important from the point of view of biodiversity, which is caused by the above-average share of preserved forest ecosystems and nature-close ecosystems of grass vegetation. Permanent growth of the area of protected territories in Slovakia and their slightly improving state is a positive trend from the point of view of biota and biodiversity protection. Economical and sustainable use of biotic resources is conditioned by targeted reduction of intensity of adverse factors, which requires also the efficient legal system and control.

### 3.5.7 Environmental risk factors

The most important risk factors from the point of view of human life and health on the Slovak territory include in particular natural risk factors, some factors of economic activity and urbanisation. Natural risk factors are assessed in the previous chapters, selected socio-economic factors are assessed in the framework of economic aspects of sustainable development. This part includes first of all assessment of those risk factors, which can negatively affect human health and the environment – radiation from natural sources and radon risk, radiation and radiation safety, activities of nuclear power plants, wastes, accidents and disasters, environmental mutagenesis and genetic modifications, chemical substances and xenobiotic substances in food and noise.

**Natural ionising radiation and radon risk** – the most important source of radiation for inhabitants is constituted by **radon and products of its radioactive modification** (approximately 43%). Special attention is paid to the issue of natural radioactivity and radon risk due to this reason. Slovakia has introduced the action level of volume activity of radon for flats and monitoring and worked out radon risk maps for the whole territory. High radon risk is mainly in the area of Spišsko-gemerské rudohorie, Horehronské podolie, surroundings of Bratislava, Košice, Banská Bystrica, Kremnica and in the cities and towns of Levice, Žilina, Partizánske, Bytča and first of all Pezinok. High levels of radium and radon in water have been registered in a number of thermal and mineral waters. The highest number of waters with high radon values is in waters of core mountains and crystalline complex in mountains of Veporské vrchy and Stolické vrchy.

Importance of radon-related health risk in houses for inhabitants of Slovakia is presented for various intervals of **equivalent volume radon activity (EVRA)** according to results of representative research. Arithmetic average of EVRA is 48 Bq.m<sup>-3</sup>, while it is substantially higher for family houses (125 Bq.m<sup>-3</sup> on average) than for blocks of flats (22 Bq.m<sup>-3</sup> EVRA). Maximal measured EVRA level is 1,500 Bq.m<sup>-3</sup>, estimate of an annual effective dose per inhabitant of Slovakia from inhalation of radon daughter products in houses is approximately 3 mSv. Approximately 13% of houses are located in the zone above 200 Bq.m<sup>-3</sup> EVRA and only 1.1% in the zone above 600 Bq.m<sup>-3</sup>.

**Radiation protection and nuclear safety** – nuclear power plants generally constitute a potential risk of leak of radioactive substances. Liquidation of burnt fuel and decommissioning of power plants from operation and their closure are also an important problem.

**Safety of nuclear power plants** relates to their technological level. The oldest nuclear power plant A1 Bohunice has been put out of operation, JE V1 nuclear power



plant has been reconstructed and the date of its decommissioning has been definitively laid down (Resolution of the Government 801/1999) at 2006. The nuclear power plant JE V2 Bohunice is being extensively upgraded, including increase of safety standard (2000-2008) and its decommissioning is planned for 2008 (Resolution of the Government 801/1999). The nuclear power plant in Mochovce started production of electric energy in 1998 (the first block) and at the end of 1999 (second block).

**Radiation situation** on the Slovak territory, including the activity of nuclear power plants, is regularly monitored. So far, no considerable deviation of content of radionuclides in air has been registered – their level is stabilised. Radiation situation in surroundings of the nuclear power plant JE Jaslovské Bohunice is permanently monitored. Along with operational risk of nuclear power plants, the most important problem from the environmental point of view is constituted by decommissioning of nuclear power plants and the back part of fuel cycle in nuclear energy (management of burnt nuclear fuel and radioactive wastes). This problem results from specific and long-term effect of radioactive substances on living organisms. Its solution is extremely costly and for the nuclear power plants it has not been definitively adopted yet. Although use of a permanent radioactive waste dump has been adopted at the governmental level, export of burnt fuel abroad (to the Russian Federation) for re-processing is one of open possibilities.

750 tonnes of **radioactive wastes** were generated in 1999 on the Slovak territory, of that 157 tonnes (21%) were disposed and 593 tonnes landfilled. Wastes are being processed and modified before disposal at waste dump. At present, Slovakia has an *intermediate storage of burnt fuel* (in operation since 1987) and a *centre for waste processing* (in operation since 1999) in Jaslovské Bohunice and a **waste dump for low and medium radioactive wastes** in Mochovce.

**Noise burden in the environment** is a phenomenon, which accompanies a lot of human activities. It is produced first of all in industrial operations, transportation, energy and mining industry. Transport is the most important noise source from the regional point of view. Within the framework of monitoring in selected cities the noise is measured in vicinity of the main transport routes. The highest share in noise falls on road transport (76%), followed by rail transport (14%) and air transport (10%). According to the Ministry of Health, the noise level of 65 dB(A) is a threshold when the vegetative nervous system starts to be adversely affected. The Decree of the Ministry of Health 14/1977 lays down acceptable noise levels at 60 dB(A) for days and 50 dB(A) for nights.

According to older data, 57% of inhabitants of Slovakia were burdened with road noise above 60 dB, 26% of inhabitants with rail transport noise and 8% of inhabitants with air transport noise.

The road transport noise started to be monitored in 1995 in several district cities. Results show that approximately 79% of inhabitants in monitored cities were exposed to excessive noise at the 55-70 dB interval. In 1998, this figure was only 44.4% (of that 3.1% from rail transport). In 1998, the noise was monitored in 63 municipalities representing 1,628 thousand inhabitants. The most excessive noise burden to inhabitants is in the cities and towns of Dunajská Streda, Veľký Krtíš, Čadca, Zvolen, Rimavská Sobota, Žiar nad Hronom.

**Chemical substances and xenobiotic substances in foods** – due to accumulation of natural and anthropogenic factors there is occurrence of risk substances, which have adverse impact on human organism. **Nation-wide monitoring of content of undesired substances** has been introduced in Slovakia since 1993, comparing to

standards in force. Monitoring consists of three sub-systems – monitoring of a consumer basket (monitoring of food contamination), co-ordinated targeted monitoring (monitoring of agricultural primary production – soil, water, plant and animal production) and monitoring of game animals and fish.

**Heavy metals** (Cd, As, Hg, Pb, Ni, Cr) are the most risky group of substances – there were 0.1-1.3% of samples exceeding limit values.

The most important problem in agricultural primary production is represented by **above-limit concentrations of nitrites** (12%), **nitrates** (2.5%), **cadmium, fluorine and nickel** (1-1.7%). In the case of game and wild animals and fish the problem is connected with heavy metals (Hg, Pb, Cd, Cr, Cu, As) and PCB substances.

Selected indicators of concentration of risk substances in Foods are presented in the Table 57.

*Table 57 Concentration of selected risk substances in foods*

Food – risk factor	Maximal allowed concentration	Average measured value				
		1992	1994	1996	1998	1999
Milk - lead	0.1 mg.kg <sup>-1</sup>	0.025	0.021	0.018	0.012	0.0145
Milk – cadmium	0.01 mg.kg <sup>-1</sup>	0.0023	0.0019	0.0025	0.0021	0.0022
Potato - nitrates	200 mg.kg <sup>-1</sup>	*	180.7	167.8	165.4	144.4

*Source: The Environment of the Slovak Republic – selected indicators (Statistical Office of the Slovak Republic, 1994, 1998)*

At the beginning of 1990s, measurement of heavy metal content in honeycomb pollen was carried out, oriented to environmentally mostly damaged areas. It was found out that the standards for Pb, Cr, Hg, As, Cd, Zn and Cu were exceeded several-fold. The worst areas were Middle Spiš (all indicators except for Zn considerably exceeded), Sered', Ružomberok, the Žiar depression, Upper Nitra, Bratislava, Poprad, Košice and Middle Zemplín (As, Cd).

**Mutagenic effects**, damaging heredity of organisms, have a special position among the adverse anthropogenic factors in the environment. Their adverse effects can be manifested in later generations, and not immediately. In the polluted environment the organisms are exposed to permanent influence of negative factors from various sources, which can affect as mutagens not only on plants, but sometimes also on animals and human beings. This concerns in particular those substances, which pollute the environment and enter the food chain through plants.

In 1998, the level of genotoxic damage of the environment in selected sites was assessed in various areas of Slovakia (through investigation of abortivity in tetrads of *C. vulgaris*). Results point out at a generally important problem of environmental mutagenesis even at protected and locally unpolluted sites - increased mutagenesis has been proved at 11 of 13 assessed sites. **Considerable anthropogenic burden of the Slovak territory has been confirmed** clearly since beginning of 1940s, using specimens and the method of back bio-monitoring of genotoxicity.

The issue of **gene manipulations and genetic modifications** is recently getting on the agenda in the developed countries, in particular as regards use of genetically modified organisms. This issue has not been solved legislatively in Slovakia yet.

**Wastes** constitute a risk factor, which threatens human health, in particular through contamination of components of the environment with harmful substances from

wastes distributed in various transport routes (including food chain) and exceptionally also through physical contact.

Total **annual generation of wastes** in Slovakia has a decreasing trend since 1990 (see Table 58). While 33.6 million tonnes of wastes were generated in 1992 (of those 3.4 million tonnes of hazardous wastes and 1.6 million tonnes of municipal wastes), in 1997-1998 the waste production was 19.8 million tonnes and the share of hazardous wastes also decreased (1.4-1.5 million tonnes). Only the volume of municipal wastes grew up to 1.7-1.8 million tonnes. Since 1996, waste generation decreases much more slowly. Decrease of total waste generation was supported by decline in industrial production, decrease of agricultural production and by adoption of the Decree of the Ministry of the Environment 19/1996, which defines waste categorisation and the Waste Catalogue. It re-categorises and excludes some wastes (spoil, straw, manure).

*Table 58 Waste generation in Slovakia (1992-1998)*

Wastes (million tonnes)	1992	1993	1994	1995	1996	1997	1998	1999
Other	24.6	25.0	22.3	19.5	10.1	10.1	10.1	10.1
Special	9.0	8.0	7.5	6.2	10.1	9.7	9.7	9.5
of that municipal	1.6	1.6	1.6	1.6	1.7	1.8	1.7	1.7
of that hazardous	3.4	3.3	3.3	2.5	1.5	1.5	1.4	1.3
Total	33.6	33.0	29.8	25.7	20.2	19.8	19.8	19.6

*Source: State of the Environment Reports, 1993-1999 (Ministry of the Environment)*

The largest waste producers in Slovakia are sectors of soils management (agriculture and forestry), industry and municipalities (municipal waste). **Landfilling** is the most common way of waste disposal. According to the **Waste Management Programme of the Slovak Republic (WMP)**, there were 7,204 landfills registered in Slovakia in 1993, of which only 335 were permitted (4.7%). Hazardous wastes were deposited at as much as 128 permitted landfills and wastes of all categories were deposited at majority of landfills. There were according to some estimates 8,000-12,000 sites in the whole Slovakia used for uncontrolled waste dumping (often with character of waste heap). There were 5,530 landfills with area above 100 m<sup>2</sup> in Slovakia in 1996 (according to the **Waste Management Programme till 2000**), of which 538 landfills were permitted (9.7%). Of these landfills only 102 fully complied with technical and legislative requirements (1.8%), special operational conditions were laid down for the other 436 landfills.

In 1998, there were 568 permitted and operated landfills (approximately 10% of the total number), of which 139 complied with technical requirements (approximately 25%) and 429 landfills were still operated under special conditions. Waste landfills operated under special conditions were closed on 31 July 2000 and, according to data from the Ministry of the Environment, operation of 141 waste landfills was allowed on 1 August 2000.

Uncontrolled waste landfills (abandoned landfills, some of them used for illegal waste dumping) are subject of gradual inventory and on the basis of assessment results they are proposed for re-cultivation. In 1992 and 1993, more than 8,300 such landfills were registered, at present the number of such landfills is approximately 5,600.

Risk related to generation of **hazardous and special wastes** on the territory depends on management of these wastes. It is a fact that these wastes are located

at sites, which have been identified as threatened areas in the framework of environmental regionalisation. This also relates to localisation of economic activities, because occurrence of old environmental burdens is concentrated in vicinity of these activities. This concerns mainly uncontrolled waste landfills and sedimentation basins, which belong to the most important contamination sources in the environment on the Slovak territory.

**Waste management** is a specific issue. Except for wastes from agriculture only a small share of wastes is utilised. Majority of wastes is disposed at landfills, smaller amounts are incinerated. Although, the share of used special and hazardous waste is high (54%), this is however due to high use of waste from animal breeding (as regards the other waste, the use level is only approximately 10%). Only 3.3% of the total amount of wastes are incinerated in Slovakia, which does not allow to fully use incineration as a process of thermal modification of wastes oriented to reduction of volume (mass) of wastes and their de-toxication before disposal at landfills. Of the total number of 92 incineration plants (with various incineration capacity) as many as 68 plants exceeded emission limits (73.9%) and only 9 plants complied with the European regulations (9.8%).

Composition of **municipal wastes** has not changed recently and their annual production on the Slovak territory ranges from ca 150 kg per capita (Stará Ľubovňa) to 700 kg per capita (surroundings of Bratislava), while the average is 322.6 kg. Management of these wastes is an indicator of waste management development. Their use on the Slovak territory is very small – less than 10% (8% in 1998). Approximately one tenth of waste is incinerated, almost two thirds are disposed at landfills (64.2%). There is also a low level of separate waste collection – in 1998 only 41,976 tonnes of wastes were collected in this way (2.4% of the total amount of municipal waste).

In Slovakia following **accidents and natural disasters** are monitored and evaluated:

- **Floods** constitute a very important risk, affecting in the recent period in particular the East and the North of Slovakia. Forty-nine persons were killed during large floods in the Torysa river basin in 1998. The largest damage was, however, caused by floods in 1997. **Accidental threat to water quality** can have also important health consequences. There has been a decreasing trend in accidents on surface watercourses and groundwater resources since 1990. While in 1990 there was 207 registered accidents, in 1998 this figure was only 117 (56.5%). **Fires** are growing since 1992 – the number of fires increased more than three times in the 1992-1998 period. Number of injured and killed persons does not grow, however. **Transport accidents** increase since 1996. Consequences to human health and lives are of particular importance. Number of killed persons increased by almost 30% during two years and number of the injured by 9%.

Selected indicators in the area of accidents and natural disasters are presented in Table 59. Data on **other natural disasters** (e.g. earthquakes, landslides, avalanches, etc.) are not statistically monitored.

*Table 59 Accidents and natural disasters on the Slovak territory*

Accidents and natural disasters	1989	1992	1994	1996	1997	1998	1999
Killed persons at traffic accidents				545	681	706	566
Injured persons at traffic accidents				8,279	8,798	8,998	8,012

Number of fires	2,293	3,908	6,960	9,462	10,607	13,472	9,574
Fire damage (SKK thousand)	113,700	245,700	280,971	343,536	930,444	409,449	637,100
Killed by fires		68	38	61	67	54	49
Total flood damage (SKK million)					2,000	1,158.1	4,528.6
Number of killed by floods						49	3
Damage by abiotic factors in forestry (thousand m <sup>3</sup> )	1,601	1,094	1,485	2,742	2,385	1,141	1,638
Number of accidents on surface water	163	127	82	71	63	66	61
Number of accidents in groundwater	51	45	39	46	46	51	54

Source: *State of the environment reports, 1993-1999 (Ministry of the Environment), Statistical Yearbooks of the Slovak Republic*

Central state administration bodies in **health care and adverse environmental factors** are Ministry of Health, Ministry of Soil Management and Ministry of the Environment. Activities causing occurrence of risk factors and threats to human health are under responsibility of the sectors of economy (energy, industry), transport, post and telecommunications (transport), construction and regional development (urbanisation) and soil management (agriculture).

Bodies ensuring local state administration are **Regional Offices and District Offices** through departments of the environment, **State District and Regional Hygienists** in co-operation with **units of district and regional doctors**. The **Slovak Environmental Inspection** is a professional supervisory body in the area of waste management, seated in Bratislava and having five regional inspectorates for waste management. The **Central Control and Testing Agricultural Institute and the Forestry Research Institute** are bodies of phytosanitary care. The **Office for Nuclear Control** is a central state administration body for use of nuclear energy. Within the environment sector the **Slovak Environmental Agency** deals with waste management.

The **new 2001 Waste Act** is a key legal instrument in waste management. **Waste Management Programmes** (the state programme till 2005, district and regional programmes) are main instruments for application of state care in the area of risk factors in waste management.

Following Acts dealing with risk chemical preparations and poisons are important in the area of protection against risk substances – e.g. the **Act 285/1995 on phytosanitary care, Regulation of the Government 206/1998 on poisons and some other substances harmful to health** as amended by further regulations, **Act 163/2001 on chemical substances and chemical preparations** and other Decrees and Regulations. These legal acts lay down conditions of procedure and obligations of stakeholders in application of chemical preparations.

The **Act 272/1994 on protection of human health** as amended by further regulations defines health protection as a complex of measures oriented to the avoiding of occurrence and spread of diseases, limitation of disease appearance, improvement of health through enhancement of living conditions, working conditions and healthy lifestyle. The Act defines rights and obligations of all subjects, defines condition of health care and protection against adverse effects of chemical substances and preparations, ionising radiation, electromagnetic field, noise and vibration. A number of legally binding regulations have been adopted in the area of health protection (in particular Decrees of the Ministry of Health).

The **National Programme of Environmental Assessment and Labelling of Products** is being applied in Slovakia, which deals with the issue of environmental management, product labelling and auditing. Adoption of the Act on environmental management and auditing schemes and the Act on environmental labelling of products is planned.

Legal regulation of use of nuclear energy with nuclear materials and radioactive wastes is a **subject of the Act 130/1998 on peaceful use of nuclear energy**. Several regulations have been adopted to implement this Act, which deal with conditions of nuclear energy use in details. There is also the **Act 42/1994 on civil protection of inhabitants** as amended by further regulations. Amendment to the Decree of the Office for Nuclear Control 190/2000 on radioactive waste and burnt nuclear fuel management entered into force on 1 July 2000.

**Protection of human health against effects of noise, vibration and electromagnetic radiation** is regulated by the Decree of the Ministry of Health 14/1977 on protection of health against adverse effects of noise and vibration and the Decree of the Ministry of Health 123/1993 on protection of health against adverse effects of electromagnetic field. Protection of human health and property against fires, floods and other exceptional events is a subject of, for example, the Regulation of the Government 31/2000.

Protection of healthy living conditions and provision of healthy nourishment for the Slovak inhabitants is linked with the issue of **ecological agriculture and bio-food production** (legally regulated by the Act 224/1998 on ecological agriculture and bio-food production, the Act 152/1995 on foods as amended by the Act 290/1996), generally with the issue of **biotechnologies** (e.g. the Acts under preparation on protection of genetic resources and resources of plants for food production and agriculture and the Act on plant breeding), as well as with the issue of veterinary care (the Act 337/1998 on veterinary care as amended by the Act 70/2000). **Genetically modified organisms** constitute a specific issue. The Act on genetically modified organisms is under preparation.

The issue of environmental risk factors is dealt with by several Chapters of **Agenda 21 – Chapter 6 (programming area E), Chapter 7 (programming areas D, F) and Chapters 19-21**.

**Environmental risk factors** belong to the main adverse factors affecting the unfavourable health state of inhabitants in Slovakia. The current state and previous development of the health state of the Slovak population is characterised within the framework of the social aspect of the National Strategy of Sustainable Development. The older investigations, based on comparison of human health state (in particular children) in the most polluted areas of Slovakia with health state of inhabitants in relatively less burdened areas, confirmed worse situation in the threatened regions. As concerns children, there was the highest occurrence of respiratory diseases and allergies, followed by diseases of digestion system, nervous system and sense organs and diseases of skin and sub-dermal tissue.

**Development of main environmental risk factors in the recent decade is ambiguous**. After 1990, there was a decline of harmful large-scale production technologies in industry, agriculture and forestry, technological level of national economy substantially increased, legislation and control of risk factors improved, which led to possibility to reduce occurrence of risk factors. On the other hand, pressures on natural resources together with negative response are increasing to a certain extent (in particular in relation to urbanisation and concentration of

inhabitants, accelerated motorization, etc.) and risk of natural disaster occurrence is also growing.

**Improvement was achieved in particular in the area of waste generation and management**, although the level of their use and disposal is still insufficient in Slovakia, when compared with developed countries. Safety of nuclear facilities is increasing. Quality of foods and drinking water, as regards occurrence of risk factors, is moderately improving.

**Worsening, on the contrary, can be monitored in frequency of appearance and consequences of natural disasters**, which can be documented in a sharp growth of fires and catastrophic floods in 1997-1998. Increased urbanisation and growing number of cars cause the increasing number of traffic accidents and number of injured and killed persons.

The issue of environmental mutagenesis and genetic manipulations, as well as adverse consequences of global climate change on the man (expected increased disease occurrence and mortality, potential transfer of infectious diseases, etc.) remain a certain threat for the future.

Based on environmental regionalisation of Slovakia, it is possible to say that **at present approximately 37% of the Slovak inhabitants live in disturbed environment**, while almost one quarter of inhabitants (23%) live in heavily disturbed environment (see the following Chapter).

Minimisation of risk factors of the environment is one of the important preconditions of sustainable development. **Anthropogenic risk factors can be eliminated by consequent application of modern technologies and environmental legislation** in all areas of the national economy, **occurrence of natural risk factors is necessary to predict and risk to reduce** through regulation of economic and urbanising activities towards sustainable use of natural resources, where so-called ecologisation of landscape management is oriented.

### **3.5.8 Nature and landscape, their protection and management**

The Slovak Republic is situated in a moderate climate zone of the Northern Hemisphere, in a transitive continental climate. The basic precondition of forming of natural conditions is, due to small area, very diverse geological composition of the territory and terrain morphology, conditioning creation of diverse landscape types, which are bound to various settlement and economic structures. The Slovak territory is roughly divided to five basic **natural landscape types** – lowlands, depressions, submontane areas, mountains and high mountains. Each landscape type has specific characteristics of natural environment, determining carrying capacity (stability) of landscape, with regard to external impacts, and landscape productivity (potential) from the point of view of various ways of utilisation. Landscape use in accordance with these two main factors is a basis of sustainable development of natural resources and landscape.

**Landscape structure** represents the use of landscape by the man, describes a level of impact (anthropogenic pressure) on natural structure of landscape. Landscape use can be expressed in several main groups – in most cases it is an urbanised, agricultural, forestry or unused landscape. Based on analyses of satellite pictures from the beginning of 1990s (1989-1992) it is possible to characterise the state of landscape use in Slovakia. Urbanised landscape with prevailing anthropogenic elements of the environment covered 5.6% of the Slovak territory. Intensively

cultivated agricultural land covered 50.5% of the territory, of which 39.4% arable land. Forest coverage was 43.9% of the area, while the continual forests covered 39.4% of the territory and 4% of the territory were constituted by transitive (seral) stages of permanent grass lands.

Landscape structure is statistically described also through **register of land types**. On the Slovak territory the following types of lands were registered on 21 December 1998: agricultural soil 49.83% (of that arable soil 29.96%, hop-yards 0.02%, vineyards 0.58%, gardens 1.59%, fruit orchards 0.39%, permanent grass lands 17.30%), forest lands 40.75%, water areas 1.90%, built-up areas 4.45% and other lands 3.06%.

Majority of phenomena adversely affecting landscape quality is determined by concrete urbanising and economic activities of the man. Complex influence of negative factors on the state of landscape and its components can be described through so called **territorial system of stress factors in landscape**, which defines basic elements of damage and threats to landscape in the form of core, linear and large-area elements of stress factor influence and which differentiates three levels of influence intensity (strong, medium and weak).

Stress factors, adversely affecting the environment, ecological quality (stability) and biodiversity, are in particular urbanisation with accompanying activities, industrial activities (mainly energy and heavy industry), transport, intensive agriculture, forestry, recreation and tourism.

The notion of **landscape quality** means the whole-area system of landscape segments, characterised with various level of anthropogenic influence on individual components and with level of the environment. Quality of the territory is determined by synergetic influence of ecologically and environmentally positive and negative factors. It means a relative evaluation of influence of individual factors and of the state of the basic environmental components – geological subsoil, soil, water, air, biota and the human environment.

Areas according to so called **level of the environment** used to be defined in the previous period on the territory of Czechoslovakia, which used to be determined on the basis of hygienic, landscape and urban appropriateness of the environment. 45% of inhabitants used to live in the 1<sup>st</sup> and the 2<sup>nd</sup> level class in 1992, 14% in 3<sup>rd</sup> level class, 26% in the 4<sup>th</sup> level class and 15% in the 5<sup>th</sup> level class.

**Institutional assurance** of nature protection and of landscape and territorial development are an important area, because it legally covers two key activities – protection of the territory (nature and landscape) and its development (construction activities and developmental activities) at all levels (municipality, regional, state). Ministry of the Environment of the Slovak Republic is a competent body of the state administration in this area. Since 1999, the regional development has been under responsibility of the Ministry of Construction and Regional Development of the Slovak Republic.

Bodies ensuring local state administration are **Regional Offices and District Offices** through their department of the environment, or municipalities. The **State Nature Protection of the Slovak Republic** was established on 15 July 2000 as a professional organisation, which should adopt some state administration competencies. The **Slovak Environmental Agency** has a cross-sectoral role.

Professional control body in the area of nature protection is the **Slovak Environmental Inspection**, seated in Bratislava with four regional inspectorates of nature protection.



Territorial protection is a subject of the **Act 287/1994 on nature and landscape protection** as amended by the Act 222/1996. The objective of the Act according to the Article 1 is *“to contribute to conservation of diversity of conditions and forms of life on the Earth, create conditions for sustainable maintenance, renewal and rational use of natural resources, conservation of natural heritage, characteristic features of landscape and achievement and maintenance of ecological stability...”*. Conditions for general and specific protection of nature and landscape have been laid down. The Act defines territorial protection (specific protection of territories in the 2<sup>nd</sup> – 5<sup>th</sup> protection levels), species protection (plants, animals, minerals, fossils), protection of wooden plants and important trees.

*Table 60 Development of protected nature areas in Slovakia*

Protected territory category		1990	1991	1994	1995	1996	1997	1998	1999	2000
National park	number ha	5 199,724	5 199,724	5 199,724	5 199,724	5 199,724	7 243,219	7 243,219	7 243,219	7 243,219
Protected landscape area	number ha	16 660,493	16 660,493	16 660,493	16 660,493	16 660,493	15 598,585	16 610,869	16 610,068	16 623,170
Nature reservation	number ha	332 48,341	369 84,081	448 90,988	559 92,674	561 92,863	575 96,007	584 96,265	584 96,266	593 96,694
Nature monument	number ha	392 10,600	405 10,626	453 11,020	248 1,370	254 1,347	259 1,432	262 1,489	276 1,443	279 1,492
Protected site	number ha				172 8,780	174 4,275	174 4,398	175 4,841	260 4,992	264 5,362

*Source: Statistical Yearbook, (1995, 1999)*

*Table 61 Survey of protected territories in Slovakia by categories (2000)*

Category	Number	Area (ha)	% of SR	Area OP (ha)	Protection level
Protected landscape area	16	623,170	12.71	0	II.
National park	7	243,219	4.96	238,124	III.
Protected site	264	5,362	0.11	2,263	IV.
Nature reserve	361	11,912	0.24	325	V.
National nature reserve	232	84,782	1.73	3,162	V.
Nature monument	228	1,437	0.03	233	V.
National nature monument	51	55	0.001	27	V.

The main instruments for application of nature and landscape protection should be according to the Act 287/1994 **programmes of nature and landscape management, programmes of conservation of specifically protected parts of**

**nature and landscape, territorial projections of nature and landscape protection and documents of territorial system of ecological stability.**

The **Act 287/1994 on nature and landscape protection** has provided the **whole-area protection of nature and landscape** specifically for five levels of protection. The Act and subsequent regulations have cancelled protective zones of protected landscape areas, new categories of protected territories have been introduced and re-categorisation of protected territories according to the new system has been carried out.

*Table 62 National Parks and protected landscape areas (2000)*

National parks	Designation	Area (ha)	Protective zone area (ha)
Tatra National Park	18.12.1948	74,111	36,574
Pieniny National Park	16.1.1967	3,750	22,444
Low Tatra National Park	14.6.1978	72,842	110,162
Slovenský Raj National Park	18.1.1988	19,763	13,011
Malá Fatra National Park	18.1.1988	22,630	23,262
Poloniny National Park	23.9.1997	29,805	10,973
Muránska Planina National Park	23.9.1997	20,318	21,698
Protected landscape areas (PLA)	Designation	Area (ha)	
Slovak Karst PLA	31.8.1973	36,166	
Veľká Fatra PLA	28.12.1973	60,610	
Vihorlat PLA	28.12.1973	17,485	
Small Carpathians PLA	5.5.1976	65,504	
Eastern Carpathians PLA	1.9.1977	26,032	
Horná Orava PLA	12.7.1979	70,333	
White Carpathians PLA	12.7.1979	43,519	
Štiavnické vrchy PLA	22.9.1979	77,630	
Poľana PLA	12.8.1981	20,079	
Kysuce PLA	23.5.1984	65,462	
Ponitrie PLA	24.6.1985	37,665	
Záhorie PLA	9.11.1988	27,522	
Strážovské vrchy PLA	27.1.1989	30,979	
Cerová vrchovina PLA	10.10.1989	16,280	
Latorica PLA	25.6.1990	15,620	
Dunajské luhy PLA	3.3.1998	12,284	

*Source: Ministry of the Environment, 2000*

*Table 63 Landscape protection by protection levels (2000)*

1 <sup>st</sup> level	3,690,357 ha	75.26%
2 <sup>nd</sup> level	861,294 ha	17.56%
3 <sup>rd</sup> level	245,482 ha	5.01%

4 <sup>th</sup> level	9,109 ha	0.19%
5 <sup>th</sup> level	98,186 ha	2.00%

Source: Ministry of the Environment, 2000

According to the National Environmental Action Programme II, the Veľká Fatra and the Slovak Karst Protected Landscape Areas should be re-categorised as national parks in 2001. New protected areas should be designated in the 3<sup>rd</sup> level (**Choč National Park**) and in the 2<sup>nd</sup> level (**Čergov, Krupinská planina and Stolické vrchy protected landscape areas**).

The only site on the Slovak territory included in the **List of World Natural Heritage** has been since 1995 the **Caves of the Slovak and Aggtelek Karst**. The bilateral object of the world heritage today consists of 22 caves and precipices as a representative selection of approximately 1,000 caves and precipices of this karst territory. On the Slovak part there are 12 caves and precipices (national nature monuments). They are protected according to the international law with the highest priority. In 2000, the World Heritage Committee at its session in Australian Cairns included in the World Heritage List the **Dobšiná Ice Cave and Stratená Cave**.

The **Ramsar Convention** – 12 sites have been included in the system of important wetlands in accordance with the Convention on Wetlands of International Importance Especially as Waterfowl Habitat: *National Nature Reserve Šúr, National Nature Reserve Paris Wetlands, National Nature Reserve Senné – Rybníky, flood plain of the river Morava (Záhorie protected landscape area), Latorica (Latorica protected landscape area), the river Danube coppices (protected landscape area), Wetlands of Turiec, Wetlands of Orava depression, the river Orava and its tributaries, Rudava alluvium, the river Ipel' region and Domica-Baradla*. There is a proposal to designate two other sites – the river Tisa alluvium and the trilateral area of the river Morava region.

**Biosphere reserves** – the network of the UNESCO Man and Biosphere Programme of biosphere reserves includes 4 territories: *the Slovak Karst (1977), Poľana (1990), the Eastern Carpathians (1992) and High Tatras (1992)*. Although biosphere reserves do not represent a category of a protected territory according to an Act or according to an international convention, they are an important basis for development of science and presentation of nature protection abroad.

Two sites received a **European diploma of the European Council** in 1998: The Dobroč primeval forest national nature reserve and the Poloniny national park. One site, the Poľana protected landscape area, received the **EUROSITE prize** (for support of nature management, in particular at international level).

In accordance with the Act 287/1994 on nature and landscape protection, **territorial system of ecological stability** is a “*whole-area structure of mutually linked ecosystems, their components and elements, which ensures diversity of conditions and forms of life in landscape*”. The basis of this system is constituted by bio-centres and bio-corridors of trans-regional, regional and local importance. Territorial system of ecological stability help fulfil the strategy of sustainable development.

The Government of the Slovak Republic in its Resolution of 29 April 1992 adopted a **General Plan of Trans-Regional Territorial System of Ecological Stability**, proposed by the Ministry of the Environment. The general Plan constitutes a basic background document for achievement of ecological stability and protection of biodiversity in Slovakia and is a binding supporting document for preparation of lower-level territorial systems of ecological stability. In accordance with the General

Plan, **87 bio-centres** of various hierarchy have been designated in Slovakia (biosphere, provincial, trans-regional importance), covering 271,600 ha (5.54% of the Slovak territory) with a total area of core territories of approximately 73,750 ha (1.50% of the Slovak territory). 79 bio-centres have been defined as representative bio-centres, 8 as unique (Turiec, the Čenkov forest-steppe, Dreveník, the Zemplín mountains, Kopčianske slanisko, Burda, Bielska skala and the Paris wetlands). A network of **trans-regional bio-corridors** has been designated (approximately 2,700 km) – the main bio-corridors are represented mainly by valleys of bigger rivers, mountain ranges or by contact zones between mountains and lowlands. Important nodes (crossings) of bio-corridors have also been designated, which will require protection within the framework of bio-centres of regional and local importance.

The General Plan has defined also **units and areas of desertification, degradation or devastation**, which indirectly affect ecological stability, where it is necessary to eliminate devastating factors, halt desertification, carry out revitalisation and overall renewal of landscape. This concerns de-forested, considerably modified areas or areas totally devastated by the man, which strongly decrease production ability of the landscape.

In the 1993-1995 period, **regional territorial systems of ecological stability** were worked out in 38 former districts of Slovakia, which were used as important background documents for territorial planning documentation.

Regional territorial systems of ecological stability together with the above-mentioned General Plan were used also in drafting the **National Ecological Network of Slovakia** (NECONET, 1996), which was worked out as a part of the European Ecological Network. Within the NECONET, 35 core territories of ecological network of the European importance, covering 507,240 ha (10.34% of the Slovak territory), and 35 core territories of ecological network of national importance, covering 215,890 ha (4.4% of the Slovak territory), were proposed. The core territories of the European and national importance cover 14.44% of the Slovak territory. Some ecosystems were re-assessed within the NECONET, as compared to the General Plan.

**Territorial planning**, as a basic tool of the state environmental policy, is introduced in the Chapter 2.2.5.

Important role in regulation of production and developmental activities is played by the **Act 127/1994 on environmental impact assessment (EIA)** as amended by the Act 391/2000, which is an instrument for a comprehensive assessment of constructions, facilities and other activities under preparation, including developmental conceptions and legal acts from the point of view of expected impact on the environment.

The issue of use, protection and management of landscape is a subject of **Agenda 21** in **Chapter 7 (programming areas C, F)** and **Chapter 10**.

The landscape is a timing-spatial system integrating basic components (natural and anthropogenic) and relations between components of the environment – phenomena and processes at all spatial and timing levels. **Quality of landscape (the environment) has to be therefor understood as consequence of these phenomena and processes** and as an important indicator expressing reaction of natural factors to long-term influence of the man in territory.

In the context of sustainable development, two factors of landscape development (besides quality of individual components of the environment assessed in previous chapters) are manifested mostly:

- changes in spatial structure of landscape (development of landscape structure),
- changes in quality of landscape – overall quality of the environment as an integrated indicator of quality of individual components.

**Changes in spatial structure of landscape** have to be assessed in historic context. Vegetation of Slovakia without human impacts would be constituted in particular by forest ecosystems (on more than 90% of the territory). However, extension of agricultural use of territory at the expenses of forests is typical for Slovakia from the long-term point of view (similarly to the whole European climatic zone of the moderate zone). Trend of loss of forests and growth of agriculturally cultivated areas was halted in Slovakia approximately 50 years ago. Growth of urbanised areas (in particular settlements, production and transport facilities), reduction of agricultural soil areas and moderate growth of forest areas are characteristic for the current trends in landscape use.

Due to very short period of a comprehensive assessment of **landscape quality** (mainly non-existence of a unified methodological framework), the trends in development of this indicator cannot be estimated more exactly. Currently used conception of **environmental regionalisation** of the Slovak territory should be determined by a complex assessment of cumulative influence of a number of adverse factors. According to this regionalisation, approximately 72% of the Slovak territory can be characterised as environment of high quality or as suitable environment. However, approximately 12% of the territory are damaged or strongly damaged by adverse impacts of anthropogenic activities.

Further monitoring of development of adverse environmental factors and their impact on changes in quality of the environment (including development of methodology of environmental regionalisation) is one of the tasks, which are important from the point of view of continual assessment of trends of development of natural resources and landscape development in relation to sustainable development. From the point of view of development and management of landscape it is possible to say that **the better is quality of components of the environment and mutual relations among them, the better is the state and functioning of landscape as an integrated system**. From this viewpoint it is very important to take into consideration mutual relationships among individual landscape components and to be able to influence them efficiently.

Planning and management of natural resources, landscape and anthropogenic activities is the key area in this respect. Considerable fragmentation, disunity and sectoral approaches still prevail (despite considerable efforts of the Ministry of the Environment).

**Challenge and priority interest in ensuring the sustainable development is to achieve ecological optimisation of spatial arrangement and functional use of landscape.**

## **3.6 INSTITUTIONAL CONDITIONS AND PERSPECTIVES**

### **3.6.1 Classification of institutional conditions and perspectives**

The starting situation for achieving sustainable development in the Slovak Republic in the framework of **institutional conditions and perspectives** is determined by development and state of:

- a) comprehensive sectoral and regional conceptions and planning (Chapter 8 of Agenda 21),
- b) legislation and law (Chapter 39 of Agenda 21),
- c) economic instruments (see Chapter 4.9 of the National Strategy of Sustainable Development and Chapter 8 of Agenda 21),
- d) education, advisory services and publicity (Chapter 36 of Agenda 21),
- e) science and research (relation to Chapters 31 and 35 of Agenda 21),
- f) collection and evaluation of information, their quality and availability, public participation in decision-making (relation to Chapter 40 of Agenda 21),
- g) legislative, executive and judicial authorities,
- h) scientific, research and expert organisations,
- i) educational institutions,
- j) business subjects,
- k) non-governmental, non-profit organisations and civic associations.

All the above-mentioned instruments are practically usable in all areas of the society (social, cultural, economic and environmental) and therefore the other Chapters of Agenda 21 are also relevant, for example Chapters related to the major groups of the society: **(Chapters 24, 25, 27, 28, 29, 30, 31 of Agenda 21)**.

The institutional aspect of sustainable development provides required tools, organisational conditions for application of these tools and control mechanisms. It finally determines quality of life of all inhabitants and sustainable development of Slovakia, which include effectiveness of public administration, comprehensive development of human resources, participatory democracy, civil society building, learning society (society of education) and information society, relation of the society to cultural heritage, prosperity of economy, efficiency of protection and management of the environment, favourable development at regional and local levels.

**The institutional aspect in the context of sustainable development has a cross-sectoral character**, since it has to respond to the question how to ensure fulfilment of tasks resulting from Agenda 21 and from other fundamental documents, which determine requirements for achievement of sustainable development in all areas of the society: cultural, social, economic and environmental. Quality and competent institutional framework is at the same time a key precondition for achievement of sustainable development in practice.

The **institutional framework in the Slovak Republic** has been considerably modified after 1989. Practically all tools, which are currently applied by authorities and institutions in society management, have been considerably modified. This concerns the **area of planning** (abandoning of directive planning system), **legal system and economic instruments** (gradual harmonisation of our legal system and economic instruments with the law and economic instruments of the EU member states). Structural tools (structural funds of the EU), but also education, publicity, science, research and informatics, are beginning to be applied.

The **Slovak Republic adopted the Constitution on 1 September 1992** and after split of Czechoslovakia on 1 January 1993 Slovakia has become an independent and sovereign state. The Slovak Constitution is based on important documents, such as the Rome Convention for the Protection of Human Rights and Fundamental

Freedoms, the Pact on Civic and Political Rights, as well as on documents of the European integration processes. The **Tenth Chapter of the Slovak Constitution directly incorporates the European Convention on Protection of Human Rights and Basic Freedoms**: functioning of self-governments, access to information and environmental management. **Relations among state authorities are determined by traditional division of power – legislative, executive and judicial.**

**The organisational structure of public sector has been considerably changed.** New state administration authorities have been created (before 1990 the environment used to be under responsibility of different Ministries). In 1990, the Slovak Commission for the Environment was created which was transformed in 1992 to the Ministry of the Environment of the Slovak Republic. Competencies of all existing central state administration authorities have been modified. New expert organisations have been established. A number of scientific and research organisations working under responsibility of various Ministries have been privatised, new advisory and control governmental bodies have been established, banking, business and third sectors are being built, universities have acquired new position and academic freedoms.

After 1990, a **new model of public administration** has started to be built as manifestation of democratisation and de-centralisation of administration in the society. Objective is to remove shortages of a centrally organised network of national committees as well as to **bring public administration closer to citizen on the basis of subsidiarity principle**. Territorial self-governments have been established by the Act 369/1990 on municipal administration. A new position should be assigned to **regional dimension, regional policy and regional development**. Necessary institutional tools and institutions similar to EU institutions are being created. **Fundamental reforms in all areas of life have begun** (social, cultural, economic and environmental). Important reforms have begun or are under preparation in education, science and research, culture, informatics, etc. Deep changes in the **areas of education, science, research, and access to information still have to be done.**

**Planning documents, legal system, economic instruments are adjusted in the process of economic transformation so that they respond to the needs of market economy** – it concerns the area of functional law of trade companies, depository and commitment law, protection of economic competition, ownership rights, taxation system, etc.. The main functions in relation to economy include clear definition and protection of ownership rights, enforcement of contracts, ensuring of competitive conditions for all economic stakeholders including antimonopoly legislation, creation of clear and predictable rules for joining the market, including rules for foreign investors, regulation of financial and capital markets, enabling of effective trade including fast and effective settlement of disputes through courts or through alternative ways.

**Slovakia is gradually building a new international position in relation to its neighbours, the EU and the world.** It declares itself as a democratic, legal state, it accessed to a number of important international conventions, agreements and charters. It actively participates in the work of UN, UNESCO and OSCE (where it used to work also before 1989). In 1993, it became a member of the Council of Europe and other organisations, for example Inter-Parliamentary Union, Partnership for Peace. Since 1993 it has been an **associated country of the European Union**. In July 2000, Slovakia was **invited to become a member country of the OECD** and in September 2000 it became a member country of this organisation.

### 3.6.2 Preparation of conceptions and planning

**In general, planning can have a character of strategic planning, territorial/spatial planning, environmental planning, regional planning, sectoral planning, etc.. Instruments of planning are strategies, conceptions, programmes, annual plans, etc., which can be worked out at national, regional, district, municipal and enterprise levels. In all instruments it is appropriate to use an effective and efficient tool - strategic environmental assessment.**

**Control and inspection activity in meeting the defined objectives and measures**, which are included in strategic and developmental documents, is very important. Not only control bodies but non-governmental organisations as well play an important role here.

**The most efficient planning document for support of sustainable development is the National Strategy of Sustainable Development**, which should be determined by social, economic and environmental strategy of the state. Of these document only the Strategy of State Environment Policy has been worked out so far (Ministry of the Environment, 1993), which has been further worked out in the National Environmental Action Programmes I and II (1996, updated in 1996).

**In the 1999-2001 period, the Government adopted or prepared a number of cross-sectoral documents, which should play an important role in enforcement of the National Strategy of Sustainable Development in practice.** They include, in particular:

- **Conception of de-centralisation and modernisation of public administration**, the Government Office (adopted by the Resolution of the Government 230/2000 of 11 April 2000);
- **Integrated plan of regional and social development of the Slovak Republic**, part 1 – National Development Strategy, Ministry of Construction and Regional Development (adopted by the Resolution of the Government 923/1999) – it is intended for implementation of the Phare 2000+ programme, which defined priority regions for implementation and use of pre-accession assistance;
- **Plan of agricultural and rural development of the Slovak Republic for implementation of SAPARD Programme**, Ministry of Soil Management (adopted by the Resolution of the Government 1007/1999; based on comments from the EU the plan was sent to the European Commission on 16 May 2000, adopted by the European Commission on 23 October 2000);
- **National plan of regional development** – adopted by the Resolution of the Government 240/2001;
- **New Conception of territorial development of Slovakia 2001 (KURS III)** – it will be submitted by the Ministry of the Environment, the document is currently under preparation.

After 1989, regional planning and **linkage of national documents to international planning** is becoming still more important. The European Union member states agreed at the beginning of 1970s on the need of creation of common European documents of spatial importance. The 1983 **European charter of spatial planning** paid great attention to the environmental issues. Other documents, for example **Towards new European space** (adopted at session of CEMAT – European conference of ministers of territorial/spatial planning), but in particular the report adopted in 1998, directly address the main **principles of spatial sustainable**



**development of the European region.** These activities have been supported by the Council of Europe, which is active in co-ordination of spatial development on the European continent. The Conference of Ministers of spatial and territorial development of individual states provides a co-ordinating role. They have elaborated, for instance, basic frames of spatial development named as **Europe 2000 and Europe 2000<sup>+</sup>**, which take into account and outline some trends towards transforming states of the Central and Eastern Europe and Baltic states.

**Slovakia as a member of the Council of Europe** (since 1993) and **member of other organisations and working committees** working in the European space actively participates in the process of European integration, which has a considerable environmental dimension. Slovakia takes part in all important activities related to co-ordination of spatial and environmental development in Europe and is a member of the Congress of local and regional self-governments of Europe. The country **accessed to the European charter of local self-government** with intention to adopt its further articles, it participates in ministerial conferences "Environment for Europe", accessed to conventions related to spatial planning, environmental protection, science, research, culture and education within Europe.

Strategic plans are missing in the current planning system at all levels. Strategic planning is sufficiently institutionalised neither in sectoral nor in cross-sectoral documents (such a document is missing also in the area of territorial planning). Result is that individual documents are not linked to each other and they cover a short time horizon. It is strategic planning, where one of the recognised instruments of sustainable development – **strategic environmental planning** – could be applied in the most effective way. Control of meeting the resolutions concerning strategies, conceptions and programmes is not sufficiently carried out and not all documents are subject of public discussion.

### **3.6.3 Legislation and law**

#### **3.6.3.1 Constitution of the Slovak Republic**

Application of *constitutionality principle, principle of law and principle of the Constitution sovereignty* is typical for a legal state. Therefor the Constitution of the Slovak Republic has a specific position in the system of legal acts – it is a fundamental act of the state, that is an act containing legal standards of the highest legal power. As a consequence, all other legal instruments (acts, regulations of the Government, generally binding legal instruments of state administration authorities and generally binding legal instruments of territorial self-governments) and decisions by public bodies made on the basis of these legal instruments have to be in compliance with provisions of the Constitution (principle of constitutionality). Although the Constitution in its text does not *include explicit reference to sustainable development*, it is possible to find a number of provisions supporting application of sustainable development.

From the point of view of application of sustainable development, there are following key provisions concerning:

- fundamental human rights and freedoms (in particular right to own property in accordance with Article 20, freedom of movement and residence in accordance with Article 23),
- rights of national minorities and ethnic groups (Articles 33-34),

- political rights (right to information in accordance with Article 26, petition right in accordance with Article 27, right to associate in accordance with Article 29, right to participate in public affairs in accordance with Article 30),
- economic, social and cultural rights (right to run business and to carry out profit-making activity in accordance with Article 35, rights of employees to fair and satisfactory working conditions in accordance with Article 36, right to health protection in accordance with Article 40, right to education in accordance with Article 42, freedom of exploration in accordance with Article 43),
- right to protect the environment and cultural heritage (right to favourable environment in accordance with Article 44, right to information on the environment in accordance with Article 45),
- right to judicial and other protection (Articles 46-50).

A number of shortages in the Constitutions of the Slovak Republic have been removed by the **constitutional Act 90/2001**.

### **3.6.3.2 Quality of legislation, implementation and compliance with law**

**State of the law in the society** relates to a number of factors, in particular to quality of legislation, application of and compliance with legal acts by state authorities and citizens, preparedness of enforcing bodies and level of law awareness.

The **Chapter 8 (programming area B) of Agenda 21** addresses the issue of effective legal and regulatory framework for integrating the environment into development and decision-making. The legal instruments should create a normative framework for tools of economic planning and market in order to introduce into practice integrated, applicable and efficient acts and measures and functioning programmes to assess them and to enforce them at all levels.

A number of **legal acts of the Slovak Republic** were assessed in relation to sustainable development on the basis of following viewpoints:

- effectiveness of public administration,
- integration of developmental issues in decision-making,
- public participation,
- efficiency of enforcement of law,
- judicial and administrative procedures,
- international conventions and their enforcement through legal acts in force,
- improvement of communication and co-operation between expert institutions of state administration and the public.

Key legal acts, directly related to sustainable development in Slovakia, are in particular the Constitution of the Slovak Republic and the **Act 17/1992 on the environment**, which introduces the notion of sustainable development into the Slovak legal system.

Before 28 July 2000, when the Act 237/2000 amending the Act 50/1976 on territorial planning and building code was adopted, it was the only Act, which explicitly stated that it was **determined by principle of sustainable development**.

Despite position of the Act 17/1992 in the system of environmental and legal regulation as an umbrella act, **its importance is at present limited from the point of view of legal application practice**. The reason for this is its character as a general legal instrument (*lex generalis*). Due to that, any legal standard introduced in any legal instrument is superior to provisions of this Act. Its practical application in legal practice is made impossible also by absence of any provisions of procedural character. Due to these reasons, at present this umbrella Act provides *only explaining and interpreting rule*, first of all as concerns explanation of some of notions from environmental science. In procedural aspects it is being replaced with the **Act 287/1994 on nature and landscape protection**, some Acts oriented to protection of components of the environment and **the Act 127/1994 on environmental impact assessment** as amended by the Act 391/2000. The need to be in compliance with principles of sustainable development has been addressed only by the **Act 237/2000**, which states that “*territorial planning creates conditions for application of sustainable development*”.

A number of legal acts, which could efficiently support sustainable development, are still missing (e.g. taxation system, which would support orientation to sustainable development). The Act on tax system, which was introducing ecological taxes, was cancelled in 2000. Institution of environmental legal responsibility (in the criminal, administrative and civic responsibility) is applied insufficiently. Obligatory insurance of environmental damage at accidents is also still missing (such a draft Act is expected as late as 2003). There is also absence of legal acts which would introduce more efficient system of appreciation of natural resources.

### **3.6.3.3 Selected technical standards supporting sustainable development**

**Technical standardisation commission (TNK) No. 72 – Environmental management** has been established for environmental management at the Slovak Institute of Technical Standardisation (SUTN). Based on incentive of the Ministry of the Environment and the Office for Standardisation, Metrology and Testing (UNMS), the ISO 1400X standards have been included into the plan of technical standardisation, which are gradually transposed into our STN standardisation system. STN standards important for sustainable development have been issued in the framework of previous activities of the TNK No. 72 through SUTN.

On 17 January 2000, the Slovak Institute of Technical Standardisation became a national standardisation authority and gradually acquires all relevant competencies. Process of adoption of the European standards into the STN system is substantially accelerating. Totally, 3,193 European standards were adopted in the STN system by the end of May 2000. All the Slovak technical standards cease to be legally binding in accordance with the Act 264/1999 (1 January 2001).

### **3.6.3.4 International conventions supporting sustainable development**

The Slovak Republic has accessed to a number of important international conventions or international agreements and charters supporting sustainable development. Their importance is also stressed in the **Chapter 39 of Agenda 21**.

The following documents and conventions related to sustainable development of the European space are important:

- Convention on environmental impact assessment in a transboundary context – **Espoo Convention** (the convention entered into force for Slovakia on 16 February 2000),

- Convention on Transboundary Effects of Industrial Accidents – **Helsinki Convention** (17 and 18 March 1992), Slovakia has not accessed to it yet.
- Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment – **Lugano Convention** (open for signature by member states of the Council of Europe on 21 June 1993), Slovakia has not accessed to it yet.
- Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters – **Aarhus Convention**. This convention was open for signature at the Fourth Ministerial Conference “Environment for Europe” in the Danish Aarhus on 25 June 1998 and then in New York at the United Nations till 21 December 1998. Slovakia has not signed it and at present a proposal for accession by Slovakia is under preparation – it should be submitted to the Government in December 2000.

Other international environmental conventions include, for example, **conventions on protection of air and ozone layer of the Earth** (e.g. the Framework Convention on Climate Change with the Kyoto Protocol, the Convention on Long Range Transboundary Air Pollution with a number of protocols, the Vienna Convention for the Protection of the Ozone Layer, the Montreal Protocol on Substances that deplete the ozone layer, **conventions on protection of quality and quantity and rational use of water** (e.g. the Convention of the Protection and Use of Transboundary Watercourses and International Lakes, the Convention on Co-operation for the Protection and Sustainable Use of the Danube), **conventions in waste management** (the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal), **conventions in nature protection** (e.g. the Convention on Biological Diversity with the Cartagena Protocol, the Convention on International Trade in Endangered Species of Wild Fauna and Flora – CITES, the Convention on the Conservation of European Wildlife and Natural Habitats – the Bern Convention, the Convention on the Conservation of Migratory Species of Wild Animals – the Bonn Convention, the London Agreement on Bats in Europe, the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat – the Ramsar Convention).

**Important cross-sectoral** conventions and documents include also those concerning combating corruption, e.g. the UN declaration on corruption and bribery in transnational commercial activities, OECD Convention Against the Bribery of Foreign Public Officials in International Business Transactions, Civil Law Convention on Corruption of the Council of Europe. In 1999, Slovakia became a member of Group of states against corruption (GRECO). The Council of Europe has established a multidisciplinary committee for corruption and a Council of Europe expert group currently works on a declarative standard in the framework of the ethic normative system, which will result in a codex of ethic behaviour.

Within the European Union some documents have been adopted, which deal with transition to **information society**, for example Global information society, Information society – acceleration of the European integration (conclusions from the conference held in May 2000 in Warsaw).

Important international conventions address also the social area. These concern in particular **human rights and minority rights**. **Civil and political rights** are the basic human rights in a modern democratic society. Absence of a comprehensive education in the area of human rights is a big shortage in the Slovak Republic. This role should be played together with educational system first of all by the Slovak national centre for human rights, which was established in Slovakia in the framework of the global UN network six years ago.

Within the UN there is a prevailing opinion that at global level it is necessary to much more address the **protection and enforcement of economic, social and cultural rights**. It is also necessary from the point of view of achievement of a balance among all categories of law. The UN Secretary-General in the 1998 annual report said that these rights include not only human needs and developmental requirements but obligation of the society to ensure unquestionable rights of individuals as well. This includes right to reasonable living standard, right to food, health and education, right to residence and work, which have not achieved the same status as the civil and political rights. These rights, however, are equally important for human dignity, human development to meet their needs. The member states of the UN, including Slovakia, have committed themselves to respect, protect and fulfil economic, social and cultural rights. Breaking any of these commitments constitutes breaking of the mentioned rights. **Concentration of attention on economic, social and cultural rights should provide assistance in particular to socially marginalised and endangered individuals and groups.** This concerns not only the unemployed but the homeless, drug addicted, handicapped, etc. as well. Shifting the attention to economic, social and cultural rights in many cases considerably helps solve also issues of marginalised and endangered ethnic groups (e.g. Gypsies). **Their situation will not be improved through mere voting right; it will require removal of existing (often hidden) racial discrimination in access to job opportunities and education.** It is the state, which has to guarantee equal chances and opportunities for these groups to exert their human rights, including economic, social and cultural ones. The Programme Declaration of the Government of the Slovak Republic contains an extensive chapter addressing principles of its economic policy, however, its position to obligations resulting from the International Convention on economic, social and cultural rights has not been defined. This convention requires “to ensure conditions for full and equal application of basic economic and social rights (such as right to work, fair and favourable working conditions, to reasonable living standard, etc.)”. At present, it can be stated that breaking of adopted international documents in Slovakia still occurs. **Citizens often feel contradiction between the governmental policy and its transformation to concrete steps in protection of their rights.** For instance, in 1996, the prestigious Freedom House in its assessment of compliance with political rights and civil freedoms in ten accession countries (i.e. EU candidate countries) ranked Slovakia at next to the last position. On the other hand, among the ten EU candidate countries Slovakia has the lowest number of unaccepted documents in the area of human rights (there are more than 80 documents on human rights adopted by the UN and by other international organisations).

**Among the endangered and violated rights in Slovakia in this context there is also the right to education.** The Government in its Programme Declaration says that *“The Government sees the decisive role in the stopping of decline and in gradual conceptual development of education as well as in the ensuring of equal access to education. Role of the state will be to create conditions for ensuring of quality of provided education and ensuring of equal level, when compared with the developed European countries”*.

If a citizen wants to complain of non-compliance with or breaking of his rights, he has to be aware of them, he has to know that these rights are of great importance for him and therefor he is ready to be personally engaged in enforcement of these rights. That would be a sign of a **working and developed civil society**. The civil society, however, still has not been built in Slovakia. There are a number of reasons for that, for which the state is responsible. They include insufficient education in the area of human rights at primary and secondary schools and universities, education of teachers and the general public. Practically the whole agenda is addressed by public

initiatives, first of all by non-governmental organisations, which systematically deal with education in the area of human rights. The state does not create any conditions for support of these initiatives. It is in a strong contradiction with immense trends towards human rights education in other EU candidate countries. Human rights and civil culture reflect the political culture of the state. The former is connected to civil society and the latter to the state. Political culture is a culture of state power performance, political representation of the state and decisive powers of the political life in the state. The model of their behaviour and mutual relationships is becoming a pattern of political culture for all lower-level areas of political life, it is getting to their relationships and to relationships between them and the citizen.

### **3.6.4 Education, advisory services and publicity**

In the general part of the Programme Declaration of the Government it is stressed that **“education is one of the most important and permanent priorities” and it is declared that “setting out on a trajectory of the society of education is one of the fundamental objectives followed by the Government...”**. The area of education and publicity directly relates to the **Chapter 36 (programming areas A, B and C) of Agenda 21**. Requirements and necessary measures are included in all Chapters. It points out at **great importance of education and publicity as a tool for achievement of sustainable development**.

**Pre-school education in Slovakia** has a developed structure in the framework of kindergartens. Average enrolment in 1989 reached 92.3% of the 3- to 6-year old population. This rate, however, considerably decreased later (70.8% in 1998). After 1995, the trend of liquidation of pre-school facilities was stopped, since it was allowed to minimise the fees for these facilities and in the case of 5-year old children it was enabled to abandon these fees. In the school year 1997/1998 the enrolment rate exceeds 80% level and it is expected that in 2001 it will reach 85%.

**Primary schools** consist of two levels: the 1<sup>st</sup> level (1<sup>st</sup>-4<sup>th</sup> classes) and the 2<sup>nd</sup> level (5<sup>th</sup>-9<sup>th</sup> classes), which since the school year 1997/1998 includes 4<sup>th</sup>-9<sup>th</sup> classes. From the point of view of education a number of changes have been carried out after 1989. For instance, three curricular variants have been defined for the first level (basic, natural science and linguistic) and the curricula are even more differentiated at the second level. Religious or ethic education has become an obligatory subject.

**Secondary schools** have the following structure: grammar schools, secondary special and vocational schools. After 1989, curricula in these schools have been modified, facultative subjects are being extended and new subjects are being introduced. Bilingual grammar schools have to be assessed positively, for instance Germany on the basis of a decision of the Centre for foreign education recognises the Slovak secondary school certificate of the German section, which allows students to study at the German universities.

**Special schools** have been innovated to the largest extent. For instance, the handicapped children are individually integrated in common classes, special classes are being created, etc..

**Primary artistic schools** after certain stagnation began to develop again in 1998.

**Universities** are important for sustainable development not only from educational point of view but as research and scientific institutions as well. 54,350 students were studying in 9 university centres in Slovakia in 1990 (Slovak citizens and foreigners) and except for 1991 their number was still growing (87,117 in 1998).

Fundamental changes occurred in the area of **lifetime education and supplementary education of adults** in 1990-1999. Organised state education of the adult has disappeared after 1990 together with changes in the education sector after 1990. Many educational institutes have been cancelled. **Universities for the elderly** have a special position in education in the environment area. **Distant education can be considered to be a progressive form of lifetime education in the area of the environment with focus on sustainable development.** Many of new, untraditional educational organisations orient their activities towards sustainable development and environmental science. There are also important trainings in the area of **environmental management systems, trainings for employees of self-governments, third sector, special trainings in use of renewable energy resources, rural tourism, etc..**

Despite worsening of material and personal conditions in education, programme innovation of education is being verified, number of kindergartens involved in School Supporting Health and School with Open Door projects grow. **Reduction of number of Gypsy children attending kindergartens is an especially alarming fact.** While in the period before 1991, there were 85-90% of total number of Gypsy children attending kindergartens, at present this rate is 0-15%, depending on regions. This state worsens possibility to involve children, who do not attend kindergartens. However, this does not concern only the Gypsy children, but children of other threatened social groups as well. Primary schools should undergo a fundamental reform, in order to better prepare children for study at secondary schools. That means to gradual decrease number of students at special and vocational schools and increase number of students at grammar schools as a precondition for increasing number of students at universities. Despite a certain growth in number of students at grammar schools, the **vocational secondary schools still have the largest share of students.** There is a growing disparity between demand and supply, as concerns grammar schools and special secondary schools. The reason is also quality and preparedness of students for these types of schools.

**From the point of view of sustainable development at schools,** it is important to continue in democratisation and humanisation of education, increase educational level, develop educational opportunities and equal access to education, changes in management, structure and economic background of educational system and changes in curricula (curricular transformation). **Ecologisation and environmentalisation** of educational curricula is important. It is necessary to pay **greater attention** to extension of subjects in the area of legal awareness, human rights, cultural and historic awareness, foreign languages, etc.. It is also necessary to substantially extend various forms of lifetime education, education of employees in the public administration, extend various forms of re-qualification courses, etc.. Education should include also new subjects, such as **ethic and civil education** (in accordance with the National Programme to Combat Corruption), **environmental science** (in accordance with the Conception of environmental education – Environmental academy), which theoretically and practically leads to sustainable development.

**Discussion on reform of universities usually concerns two main themes:** equal opportunities for all applicants and ensuring the adequate funding of educational institutions. Solution of these two key issues is very urgent, because a **functioning education system is a good investment for the future supporting sustainable development.** It is assumed that we should start **to remove the largest current problems at universities,** e.g. by speeding up the transformation of university education. Preparation of the state educational policy should include a participation of general public (the Government of the Slovak Republic has already approved

Conception of further development of university education in Slovakia for the 21<sup>st</sup> century). The shortages in linkage between schools (including universities) and society should be removed. **Responsibility of universities for sustainable development of the society** is stressed in conceptual documents. Systemic measures should contribute to stopping of loss of qualified specialists (considerable number of qualified teachers in the most productive age categories of 30-45 years have recently left). An overall awareness of inhabitants should be changed – at present, the issues of education are not considered to be an urgent social and political problem. Clearly defined objectives for preparation of future generations for a “learning society”, realistic estimates of required time, human, material and financial resources are still missing. The society does not accept the idea that **social, moral and intellectual capital constitutes a welfare of a society no less than money**. In the developed countries this determines the role of educational system and the state (society). Greater attention will be paid to **linkage of educational institutions with the conception of employment policy**.

In relation to accession to the European Union it is very important to **include in curricula the European dimension and strengthen education of foreign languages** (that means languages of the European Union). This issue is getting to schools only sporadically, though only quality language preparedness can contribute to equal chances on the European territory. The biggest shortages are at primary schools and secondary vocational schools. It should be a rule that dissertations (or at least their part) are worked out in a Western language. At present, achieving a language certificate is very important. Accredited state language schools can carry out state language exams.

### 3.6.5 Science and research

The area of science and research directly relates to the **Chapter 31 and Chapter 35 (programming areas A-D) of Agenda 21**. Similarly to education and publicity, requirements concerning science and research are included in almost all Chapters of Agenda 21, which underlines a **great importance of science and research as a tool to achieve sustainable development**.

**The Government of the Slovak Republic in its Programme Declaration of 19 November 1998 confirms autonomy and key position of science and technology in implementation of the economic and social policies.** In the area of science the Government plans to:

- gradually increase resources so that the share of expenditures to science in GDP reaches the level close to the EU,
- set national scientific priorities,
- create effective instruments for support of science and technology (tax and custom systems),
- submit a draft Act on support of science and technology,
- support bilateral and multilateral international co-operation.

Many changes have appeared in the area of science and technology after 1999. Cross-sectoral competencies in this area have been given to the Ministry of Education. New documents have been adopted: New model of science and technology funding (Resolution of the Government 561/2000) and Conception of the state science and technology policy (Resolution of the Government 724/2000). The



Council of the Government for science and technology is an advisory body. Proposal to establish an Agency for support of science and technology was approved at the session of the Government on 20 December 2000 (Resolution of the Government 1062/2000), which was approved by the National Council of the Slovak Republic (the Act 203/2001).

One of the key measures in the area of research and technological development is the **association of the Slovak Republic to the 5<sup>th</sup> Framework Programme**. By the Resolution 189/1999 of 3 March 1999 the Government approved a draft decision of the Association Council concerning conditions of participation of the Slovak Republic in the Community programmes in the area of research, technological development and demonstration activities (1998-2002) and in programmes of research and vocational trainings (1998-2002), that means the association to the 5<sup>th</sup> Programme. Scientists and researchers have joined important international projects and programmes of the 5<sup>th</sup> EU Framework Programme. The Government considers the full participation in the 5<sup>th</sup> EU Framework Programme for research and technological development and demonstration activities to be an extraordinarily important step in integration of the Slovak science and technology into the **European science**.

**Scientific and research projects oriented to sustainable development issues** are being solved at a number of universities and institutes of the Slovak Academy of Science (e.g. the Comenius University in Bratislava – Faculty of Natural Sciences, Medical Faculty, Philosophical Faculty, Pedagogical Faculty and Management Faculty; the Slovak Agricultural University in Nitra – Faculty of Gardening and Landscape Management and Agronomic Faculty; the Technological University in Zvolen – Faculty of Ecology and the Environment; University of Constantine Philosopher in Nitra – Faculty of Natural Sciences, P. J. Šafárik University – Faculty of Natural Sciences, the Slovak Technological University in Bratislava – Faculty of Architecture, Faculty of Chemical Technology and the Technological University in Košice – BERG Faculty). As far as the Slovak Academy of Science (SAS) is concerned, these activities are carried out at the Geographical Institute of SAS, Institute of Landscape Ecology of SAS, Sociological Institute of SAS, Cabinet for research of social and biological communication of SAS, Prognostic Institute of SAS and Zoological Institute of SAS.

**Other research and specialised institutes** also play an important role in science and research oriented to sustainable development. They include, for example, research and development carried out by organisations, which are directly or methodically controlled by central state administration authorities (e.g. Ministry of the Environment, Ministry of Soil Management). Some specialised agencies of the ministries also play an important role in application of Agenda 21. The Slovak Environmental Agency, which was created in 1993, has a specific position among these agencies. Its activities are oriented to environmental science and sustainable development. The largest number of researchers today works in the enterprise sector. This includes research institutes, which were established as a research and developmental basis of large industrial enterprises and at present they are joint-stock companies.

In general it can be said that the current grant commissions VEGA are oriented to concrete, specialised areas of science, technology and art. Possibility to submit projects oriented to sustainable development, involving scientists from various fields (social, economic, environmental), has been missing so far. Based on analysis of orientation of individual VEGA commissions, we can say that sustainable development is mentioned **only in the framework of VEGA commission for agricultural, forestry and veterinary sciences, where “sustainable development**

**in agriculture” is mentioned as one of possible themes.** It is positive that a concrete project addressing issues of psychic dimensions of life under sustainable development conditions has been adopted within the VEGA commission (human sciences).

In relation to development of science and research in Slovakia it is, however, necessary to stress insufficient development of theory and methodology oriented to sustainable development, including practical issues (e.g. economic instruments, environmental accounting, etc.).

### **3.6.6 Information and public participation**

The area of information for decision-making as well as access to information directly relate to the **Chapter 40 and also Chapter 8 of Agenda 21**. Requirements and necessary measures to build information systems, improve quality of information and access to information are included in all Chapters of Agenda 21, similar to education, publicity, science and research, etc.. **This includes the area of information among the decisive instruments to achieve sustainable development.**

In Slovakia, as a consequence of new trends, **use of information technologies and communications within the state information system is being extended.** This concerns in particular electronic mail, web pages, possibility to access to information from various areas (databases of non-commercial characters, libraries, agency news, daily press, journals, etc.), possibility to get free software. Existence of a complex national information system, which has not been completed, is very important for development of informatisation and forming of information society. This issue was addressed by the Government as early as 1995, when the **Act 261/1995 on state information system** was adopted. This through an administrator (at the time of adoption the administrator of state information system was the Statistical Office of the Slovak Republic) has co-ordinated creation and operation of information systems, which are funded from the state budget, since 1995. Since 1 April 1999 the state information system has been delimited under responsibility of the Ministry of Transport, Post and Telecommunications and later under responsibility of the **Ministry of Education (Department of information technologies – since 1 January 2000 it has co-ordinated and supported implementation of the information society policy in the Slovak Republic)**. At present, it co-ordinates its building and in co-operation with other central state administration authorities creates a system containing information on parts of the state information system from the points of view of content, technology and organisation (metainformation system) and ensures its operation.

**Individual parts of the state information system, so called sectoral information systems,** are being created in the form of projects (Decree of the Statistic Office 283/1996). Creation of the governmental data network GOVNET was a basic step of the state information system. This network has served from its creation in 1993 for mutual communication and exchange of information among the central state administration authorities (the Government Office, Office of the National Council, Office of President, ministries, etc.), among their information sources and Internet. The Government Office is a guarantor and operator of the GOVNET network. Its construction is slow and web pages provide incomplete information, which are owned by individual GOVNET offices. The Conception of the state information system should be updated each two years and sectoral organisations should work out their own conceptions of sectoral information systems in two-year periods. The last conception of the state information system was approved by the Government under

responsibility of the Statistical Office for the period of 1997-1998. Due to organisational changes and competencies, the new Conception of the state information system will be worked out as late as 2000 for the 2001-2002 period. In September 2000, a **draft procedure for preparation of a strategy of information society development in Slovakia** was worked out (Ministry of Education) on the basis of recommendations of advisory bodies of the Government, however, it was returned to revision.

**Right to information** (Article 26, paragraphs 1 and 45 of the Slovak Constitution) is an important tool of democracy and guarantee of protection of human rights and one of guarantees of decision-making quality in public administration. Its application in practice is supported by *principle of public administration publicity*, which expresses *legal right of citizens to access to all information except for those, which are legally explicitly excluded*. Before 1989, a legal model used to be applied, in which the information was flowing from legal and physical persons to public administration authorities (notification obligation), but right of citizens to information was limited by setting various conditions and requirements (binding the right of third persons to look into documents with showing a legal interest, position of a person as a stakeholder of administrative procedure, etc.), moreover, the right of the public to information was not legally guaranteed. Right to information has been laid down by the **Act 211/2000 on free access to information** and on amendment to several Acts (Act on free access to information).

**Institutional mechanisms for public participation in decision-making by state bodies in accordance with the Slovak legislation** – current state is determined by the legislation in force concerning position of legal and physical persons, that means their concrete rights and obligations in accordance with the Slovak Constitution and laws. Content and extent of these rights and obligations define the legal status of physical or legal persons.

**Legal rights supporting democracy are the most important for strengthening of impact of the public on decision-making by state authorities and public administration authorities** (decisive, consultative democracy). The most important forms of decisive democracy include referendum. It allows citizens to directly decide on various issues related to the state. Referendum is a subject of the Act 369/1990 on municipal administration as amended by further regulations.

**Forms of consultative democracy include legally regulated institutes**, which result from constitutional or legal rights of physical and legal persons. Their common feature is that implementation procedure is regulated by Acts and state authorities or public administration authorities are in accordance with their application obliged to certain active procedures (e.g. they are obliged to accept submissions or requests expressing opinions in public interest issues, get acquainted with content of these submissions and respond to them in accordance with legally laid down procedure). In the area of law they include in particular **petitions, complaints, comments, standpoints**.

The **Council of economic and social agreement of the Slovak Republic**, as a negotiating body of economic and social partnership at national level, has a special position according to the Act 106/1999 on economic and social partnership (Tripartite Act). The Council, for example, negotiates standpoints and recommendations in the area of economic development and social development and the state budget, draft generally binding legal acts, which concern important interests of employees and employers.

Specific mechanism for involvement of the public into the decision-making by public administration authorities is constituted by the Act 127/1994 on environmental impact assessment. A **civic association**, meeting the conditions laid down in the Article 9, paragraph 4 of the Act, is *ex lege* a stakeholder in administrative procedure on permitting the concerned activity.

**Procedural and legal guarantees of protection of rights** are used by legal subjects in cases, when their constitutional or legal *rights are threatened or violated due to illegal behaviour of other legal subject*. Objective of these guarantees is to ensure that rights are not violated or to ensure due remedy of violated rights and freedoms.

Slovakia, as one of few European countries, has not signed the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters during the pan-European Conference of the Environment Ministers in Danish Aarhus, and has not done so even by the end of 1998, when it was possible to sign the Convention in New York in the UN Headquarters. The Government therefor assigned the Minister of the Environment to prepare for accession to the Convention.

**Access to information and quality of information** is considered to be a key precondition to achieve sustainable development. In order to gain opinions of the general public a **questionnaire related to the Chapter 40 of Agenda 21 “Information for decision-making”** was used in the analytical stage of preparation of sustainable development strategy (distributed to approximately 50 organisations, institutes and individual respondents). The following general conclusions can be made, based on questionnaire results:

- Basic notions of the sustainable development concept are defined at various levels. A lot of information is missing or is insufficient. Very few people understand real basis of sustainable development and this issue is not very much perceived;
- Conditions and supporting mechanisms for sustainable development (in particular information sources) are not good, mechanism for transfer of scientific knowledge into information is insufficient;
- Co-ordinating mechanisms and co-operation among sectors in sustainable development oriented projects are mainly at local level in most cases insufficient. The situation at higher levels is improving and at international level the co-ordinating mechanisms are good;
- Usability of sustainable development indicators in decision-making at local, regional and national levels is insufficient. Use of sustainable development indicators at international level is good, however, a lot of information is still missing;
- Quality of information for decision-making (concerning the environment, resources and development at local and regional levels) is insufficient, a lot of information is still missing. Quality of information at national and first of all at international levels is good;
- Information systems in the state sector are not completed, an Act on free access to information was missing so far. On the other hand, there is a prevailing low level of civil awareness, involvement and weak legal awareness in the area of access to information.

- Information on the environment is not sufficiently appreciated in decision-making process and there is a prevailing opinion that the economic activities are more important. Economy of the Slovak Republic is not sufficiently connected with principles, criteria and indicators of sustainable development and motivating economic instruments have not been worked out;
- Access to information should be strongly strengthened by the Act 211/2000 on free access to information and accession to the Aarhus Convention.

### 3.6.7 Legislative, executive and judicial authorities

#### 3.6.7.1 National Council of the Slovak Republic

**Legal position of the National Council of the Slovak Republic**, which is the only constitutive and legislative body of the Slovak Republic, is regulated by the Constitution and by specific Acts. **The National Council of the Slovak Republic is a state power authority and positions of other state authorities are derived from its primary position in the state.** There are 150 members (deputies) of the National Council, who are elected by citizens on the basis of proportional system for a period of four years. As an elected body it represents sovereignty of the state and the people. It fulfils an important role in building the Slovak Republic as a modern and democratic state. From the point of view of achievement of sustainable development it is very important that the National Council of the Slovak Republic fulfils an important role in introduction of a socially and environmentally oriented market economy.

**The National Council of the Slovak Republic has *competencies* in constitutive, legislative, creative, control areas and in the area of internal and foreign policy.** When activities of the National Council of the Slovak Republic in relation to sustainable development are assessed, it is necessary to take into account its constitutional and legislative competencies. In accordance with the Article 86 of the Constitution its competencies include: to decide on the Constitution, constitutive and other Acts and to control compliance with them, competence before ratification to express consent with international political agreements, international economic agreements of a general character, but also with international agreements requiring specific implementing Act, competence to constitute ministries and other state administration authorities, competence to negotiate a Programme Declaration of the Government, competence to control activity of the Government and to negotiate trust to the Government or its members, competence to negotiate basic issues of internal, international, economic, social and other policies.

Rules of procedure in the National Council of the Slovak Republic, which have been in force since 1997, have brought a new way of discussion concerning draft Acts in three readings, which should contribute to improvement of legislation. It partly facilitates also access of the expert public into the activities of individual committees and plenary sessions of the National Council. Provisions of the Article 18, paragraph 1 (partly), and in particular Article 21, paragraph 1 of the Rules of procedure allow to invite to session of the National Council important personalities of economic and social life, representatives of other states or international organisations and allow them to have a speech at a session of the National Council.

**Provisions of the rules of procedure concerning committees of the National Council of the Slovak Republic determine a public character of committee sessions**, where representatives of the public have a right to participate or submit proposals and comments – if a Member of the Parliament adopts them, committee

negotiates them. **Committee has a right to directly invite to its sessions specialists and other persons and ask them for viewpoints. Similarly, a committee can ask expert institutes and other agencies for their judgements and viewpoints.** The National Council and its committees can create ad hoc commissions to consult issues and to prepare viewpoints with possibility to appoint experts to these commissions out of the Parliament.

From the point of view of sustainable development all committees are important, especially:

- **for social area:** committee for social affairs and housing, committee for health, committee for human rights and national minorities, committee for defence and safety,
- **for cultural and historical area:** committee for culture and media, committee for education, science, youth and sport,
- **for economic area:** committee for finance, budget and currency, committee for economy, privatisation and business, committee for soil management,
- **for environmental area:** committee for environment and nature protection,
- **for institutional area:** committee for public administration, foreign committee, committee for European integration, committee for education, science, youth and sport.

Individual committees of the National Council initiated various activities supporting orientation towards sustainable development. For instance, the **committee for the environment and nature protection** initiated a number of meetings of the deputies with domestic and foreign experts in preparation of fundamental development policies of Slovakia, important from the point of view of orientation towards sustainable development, which were then submitted to the Government and to the Parliament. As an example it is possible to mention several discussions in preparation of strategic and policy documents (e.g. the Energy Policy in 1998-1999). There are also **important investigations by deputies**, which are to seek solutions of basic problems in the area of the environment and nature protection. The committee has established a **Permanent advisory commission of the National Council Committee for the environment and nature protection**, members of which are regularly invited to sessions and provide consultations concerning problems of the environment. **It is also necessary to stress initiatives of the deputies and other National Council committees, either in the area of investigations by the deputies or in submitting draft Acts, which support building of a civil society and orientation towards sustainable development.** It is however necessary to say that the requirement to apply principles of sustainable development is not fully met in discussions on development policies and on generally binding legal regulations. Obligation resulted from the Act 127/1994 on environmental impact assessment (“...to assess from the environmental point of view basic development policies and those draft Acts, which are likely to cause adverse impacts on the environment” – this concerns also the Act on state budget) does not apply. Importance of application of the **Act on environmental impact assessment** is confirmed by its inclusion among the **institutional indicators of sustainable development.**

**In order to intensify co-operation between the Government and the National Council an extraordinary regime of adoption of legislation was adopted.** It is expected that the priority legal acts will be adopted within a time period, which will allow to achieve a progress in meeting the commitments resulting from transposition

of the European legislation. Tasks of the National Council of the Slovak Republic are determined also by the **National Programme for Adoption of *Acquis Communautaire***.

### **3.6.7.2 The President of the Slovak Republic**

The Constitution of the Slovak Republic defines the President as a Head of the Slovak Republic. The President is elected by citizens in direct elections for five-year period. In accordance with the Article 101, the President negotiates and ratifies international agreements, adopts and accredits ambassadors, calls constitutive session of the National Council, signs Acts, appoints and removes the prime minister and other members of the Government, heads of central state administration authorities, lends commendations, grants amnesty, is a chief-commander of the military forces, announces referendum and has also other competencies (he can, for example, return to the National Council constitutional Acts, submits to the National Council state of the republic reports and reports on important issues, etc.). Presidential competencies allow to considerably support orientation of the society towards sustainable development, for instance through stressing importance of sustainable development in a state of the republic report and through returning to the National Councils those Acts, which do not comply with orientation towards sustainable development. The President can act also in adoption of ambassadors, foreign guests and representatives of the major groups of the society, representatives of important organisations and institutions by stressing importance and need to orient our society towards sustainable development, he can initiate exchange of experience, organise roundtables, etc..

### **3.6.7.3 The Government of the Slovak Republic**

**The Constitution of the Slovak Republic and specific Acts constitute a legal basis of position and competencies of the Government.** The Constitution of the Slovak Republic in its Article 108 defines position of the Government as the *highest body of executing power*, that means that the Government organises, harmonises, manages and controls activity of state administration authorities and has a *general competence* within the state administration. Its power is derived from the National Council of the Slovak Republic as a representative of sovereignty of the people and the Government executes it itself or through *ensuring fulfilment of constitutional and other Acts of the National Council and fulfilment of its other Resolutions*.

Competence of the National Council includes negotiation on a Programme Declaration of the Government. **Governmental programme, which is submitted by the Government in accordance with the Article 113 of the Constitution, should be a document of a comprehensive character relevant for the whole society and the state**, which constitutes a complex, most effective and most acceptable solution, reflecting reasonable requirements of citizens.

From the point of view of requirements of Agenda 21, the governmental programme should be a basis for adoption of political framework, suitable to domestic conditions, which would reflect a long-term perspective and cross-sectoral approach. **It would become a starting point for decision-making, while respecting mutual relationships within various political, economic, social and environmental problems and among them in a development process.**

**In order to successfully enforce policy documents approved by a governmental resolution in practice it is important that such documents of a fundamental character, relating to socio-economic and environmental issues,**

**are discussed as early as preparatory phase.** It is important that comments of non-subordinated subjects (e.g. public, self-governments) can be in time taken into account and incorporated in documents before approval by the Government. Such a procedure would be fully in accordance with the requirement of Agenda 21 concerning improvement of mechanisms, which would facilitate involvement of concerned individuals, groups and organisations in decision-making at all levels.

**Resolution of the Government 118/1992 is especially important, as far as preparation of sectoral policies and programmes is concerned. By this Resolution the Government committed all ministers and heads of other central state administration authorities to use results of UNCED and to incorporate them into sectoral programmes.** It has not happened.

**Concerning preparation for accession to the European Union, the European agreement on accession between the European Communities and their member states on one side and the Slovak Republic on the other side (Luxembourg, 1993) is especially important for Slovakia.** Application of sustainable development principles was reflected in this agreement (measures of economic policy and other measures will be intended to lead to economic and social development of Slovakia and **will be governed by sustainable development principles**).

**After decision of the Helsinki summit in December 1999 concerning opening of negotiations on accession to the EU with Slovakia and after starting negotiations on 15 February 2000, Slovakia started a new important phase of integration process.** Objective of Slovakia is to open negotiations in all negotiation chapters during 2001 and to complete negotiations in all chapters by the end of 2002. **The Government of the Slovak Republic approved the second revised version of the National Programme of Adoption of Acquis (NPAA) on 22 March 2000 and is preparing the third version.**

Slovakia became an OECD member country in 2000. This decision completed process of negotiations on conditions, commitments and responsibility, which result from membership in this organisation. Today OECD has the most important task to create a framework for successful integration of economic, environmental and social policies, which is necessary for achieving the sustainable development.

**In relation to the need to solve new tasks, resulting for example from conditions for access to the European Union and from requirements of OECD,** specific state administration bodies or authorities are being created (e.g. the Office for Public Procurement, Office for State Aid).

In accordance with global trend in developed countries the **Government of the Slovak Republic declares in its Programme Declaration** (approved by the Resolution of the Government of 19 November 1998 and by the Resolution of the National Council of 2 December 1998) the **principle of sustainable development** as a decisive development principle, while environmental management has to become an integral part of all spheres of social life. Quality of the environment determines quality of life of each individual. According to the Programme Declaration the Government will enforce ecologisation of the social life through introduction of ecological principles into all areas. **The Government in its Declaration considers application of sustainable development principle to be an indispensable condition of accession to the European and trans-Atlantic structures.** Economic, social, environmental and institutional indicators and interests will be in accordance with the Programme Declaration worked out in the **National Strategy of Sustainable Development** and in conceptions of regional programmes. **Strategy of**



**sustainable development** is introduced as an **institutional indicator of sustainable development** (see further).

**These ambitious tasks have been carried out only partially so far.** Principles of sustainable development are not sufficiently applied in adoption of policies, plans, programmes and generally binding legal acts. **Sectoral approach still prevails, integrated approach in decision-making**, which would take into account social, economic and environmental aspects, **is missing. Reform of public administration, which should considerably contribute to higher effectiveness of public administration and to enforcement of one key principle of sustainable development (subsidiarity), is being carried out slowly.**

**The National Programme for Adoption of *Acquis Communautaire* did not take into account principles of sustainable development properly** (except for environmental part of this document), though application of sustainable development principles was reflected in the **Association Agreement**.

**Still existing corruption** is a very negative phenomenon, which is a barrier to development of economy and has very adverse consequences to all aspects of the social life. On 21 June 2000, the Government adopted a **National Programme to combat corruption** and at the same time created a **Steering Committee to combat corruption** and subsequently the Action Plan to combat corruption.

#### **3.6.7.4 Advisory bodies of the Government and plenipotentiaries of the Government**

**Advisory bodies and plenipotentiaries of the Government should fulfil those tasks, which are of cross-sectoral nature**, or which are not appropriate to be fulfilled within a respective sector because of various reasons. Role of advisory bodies of the Government is to **expertly broadly assess proposals, which have cross-sectoral nature**, which will be discussed and decided by the Government. They are established on the basis of Resolutions of the Government and can be permanent or temporary.

**Of the advisory bodies of the Government, the Council of the Government for Sustainable Development is especially important for sustainable development.** This Council is according to its statute (approved by the Resolution of the Government 78 of 27 January 1999) an advisory and co-ordinating body of the Government for application of Agenda 21, sustainable development principles and evaluation of sustainable development indicators at national level. Non-existence of a co-ordinating body responsible for application of Agenda 21 and sustainable development indicators before 1999 considerably slowed down the whole process of enforcement of sustainable development in practice.

**Plenipotentiaries of the Government** are involved in the structure of the Government Office and ministries. They are appointed in particular to strengthen their position within the state and in executing their role (e.g., the plenipotentiary of the Government for implementation of the project which is aimed at a strategy of reform and de-centralisation of public administration, the plenipotentiary of the Government for problems of the Gypsy minority, the plenipotentiary for protection of private data in information systems, the plenipotentiaries of the Government for water management issues on bordering waters, the plenipotentiary of the Government for negotiations concerning our accession to OECD and others – 26 plenipotentiaries of the Government and their deputies are appointed – based on data of 1 January 2000). Their number has to be reduced.

As it was confirmed by the **Audit of activities and funding of central state administration authorities and agencies** (June 2000), **advisory bodies and plenipotentiaries are at present not sufficiently legally arranged**. The governmental structure includes around 30 advisory bodies, which have practically no decision-making competence. A number of existing advisory bodies work insufficiently. Members of the Government or state secretaries are often appointed as members of these bodies and they are not capable to participate in sessions of these bodies and at the same time to execute their activities in the Government. Functionality and reasonability of several current advisory bodies can be therefor questioned. The audit recommends that lower-level decision-making experts participate in the advisory bodies, which would ensure fulfilment of tasks of advisory bodies.

### **3.6.7.5 Ministries and other central state administration authorities**

**Legal position of ministries and other central state administration authorities in Slovakia** and their competencies are currently defined by the Constitution, by the Act 347/1990 on organisation of ministries and other central state administration authorities in Slovakia as amended by further regulations.

According to the Act 347/1990 the following central state administration authorities work in Slovakia (as of 1 January 2000):

- led by member of the Government (minister) appointed by the President of the Slovak Republic – Ministry of Economy, Ministry of Finance, Ministry of Labour, Social Affairs and Family, Ministry of the Environment, Ministry for Privatisation of National Property, Ministry of Soil Management, Ministry of Construction and Regional Development, Ministry of Transport, Post and Telecommunication, Ministry of Education, Ministry of Culture, Ministry of Health, Ministry of Foreign Affairs, Ministry of Justice, Ministry of Interior, Ministry of Defence;
- led by a Head appointed by the Government – *the Government Office*;
- led by a Chairman appointed by the Government – Statistical Office, Office for Nuclear Control, Office for Geodesy, Cartography and Cadastre, Antimonopoly Office, Office of Industrial Ownership, Administration of State Material Reserves, Office for Labour Safety, Office for Standardisation, Metrology and Testing.

As it was shown in the Audit of activities and funding of central state administration authorities and agencies (June 2000), **despite efforts of many experts and managers during recent decade, ministries and other central state administration bodies have not changed very much in the area of organisation and transparency of work, activities and funding**. Their transformation to organisations, where the governmental programme would be worked out in the form of policies and Acts and where decision making on conditions and tools would be made, is still not successful. There is still pressure of administrative and operational nature, which is after adoption of some Acts even stronger. **Still existing sectoral approach is a big barrier to ensure sustainable development**. Conditions for creation of flexible, cross-sectoral teams have not been created. According to the audit results, necessary reforms cannot be implemented sectorally because they require systemic changes in an overall functioning of the central state administration and cross-sectoral approach. Effective management of communication with the public is missing in the state administration and there is often missing linkage between legislative and strategic units of the state administration authorities.

**A number of issues, addressed by the audit, are negatively reflected in a slow and often inefficient enforcement of sustainable development in activities of the ministries and other central state administration authorities.** Relatively weak position of the Ministry of the Environment in relation to economic ministries contributes to insufficient respecting of transposition of the environmental policy strategy to other sectoral and public policies. Environmental assessment of important development policies and generally binding regulations is not implemented, though this obligation has been rooted in the Act 127/1994 on environmental impact assessment since 1994. Marginalisation and negligence of environmental issues (but also of other economically “weak” sectors) was also evident in systematic reduction of their budgets.

**The Conception of Agenda 21 application and evaluation of sustainable development indicators in Slovakia** (Ministry of the Environment, 1997), which has defined **responsible bodies for individual indicators of sustainable development and for Agenda 21 chapters**, is especially important for **enforcement of sustainable development in practice** through executive (controlling, conceptual, planning, standardising and decision-making) activity of individual sectors, taking into account their *current competence* determined by Acts (the Act 347/1990 and other Acts).

The main reason of elaboration of the **Conception of Agenda 21 application and evaluation of sustainable development indicators in Slovakia** was to point out at the fact that the Resolution of the Government 118/1992 was not fulfilled during five years, having only declarative character without any concretisation in relation to 135 sustainable development indicators. In the environmental area, after documents adopted at the **UN Conference on Environment and Development (UNCED, June 1992)** the Ministry of the Environment worked out the **Strategy, principles and priorities of state environmental policy (1993)**. Measures to achieve objectives of the Strategy were worked out in the **National Environmental Action Programmes I (1996) and II (1999)**. Comprehensive documents addressing UNCED outputs in the social and economic areas have not been worked out so far. The UNCED results have not been fully utilised in preparation of sectoral policy documents and programmes. There were difficulties in meeting the Resolution of the Government 655/1997 concerning the draft application of Agenda 21 and evaluation of sustainable development indicators in Slovakia). This fact was found out by the **Council of the Government for sustainable development**, which adopted a resolution on its second session, by which it committed competent responsible bodies to analyse sustainable development indicators from the point of view of targeted usability and functionability within processes of sustainable development. More information on a document **CDC - Country Profiles - Slovakia** is missing. This document contains information on achievements since UNCED. It is worked out on the basis of background information received from ministries and other central state administration bodies, regional offices and district offices. It is not published for the time being and is not submitted for public commenting. A number of chapters of Agenda 21 are therefor worked out from the point of view of the state administration, without viewpoints of the major groups of the society, to which these chapters mostly relate. Linkage between assessment of Agenda 21 chapters and sustainable development indicators is missing in this document.

#### **3.6.7.6 Territorial state administration - regional and district offices**

Within the framework of re-organisation of authorities of local state administration in Slovakia, the majority of specialised state administration bodies have been cancelled by the Act 222/1996 on organisation of local state administration (e.g. district and

sub-district offices of the environment, regional forest authorities, district veterinary administrations). These specialised bodies have been integrated into the general system of **regional offices and district offices**.

**Legal position of local state administration** is defined by the Constitution of the Slovak Republic, by the Act 222/1996 on organisation of local state administration and by other specific Acts.

**Regional offices and district offices** execute state administration in the following areas: state defence, general internal administration, business and consumer protection, fire protection, civil protection of inhabitants, environmental protection and management, finance, prices and administration of state property, agriculture, forestry, and hunting, land management, transport and road management, social affairs, health, education, youth and physical culture, culture, real estate registers, regional development strategies, control and international co-operation.

**In accordance with the Resolution of the Government 285/1999, regional offices established commissions for regional development with orientation to social and economic development of administrative regions.** They also established **commissions for support of small and medium business and local infrastructural projects** (regional co-ordinating commissions for development of small and medium business).

**Position and role of local state administration from the point of view of Agenda 21 enforcement** is currently determined by the Act 222/1996 and by *specific Acts*, which in detail define competence and roles of the regional offices and district offices and competence and roles of other local state administration bodies (e.g. mining authorities) in execution of state administration.

**According to the Conception of Agenda 21 application and evaluation of sustainable development indicators in Slovakia (Ministry of the Environment, 1997), there are currently no sustainable development indicators under responsibility of the regional offices.** *Regional offices are responsible for two chapters of Agenda 21, namely the chapter 27 (Strengthening the role of non-governmental organizations: partners for sustainable development) and the chapter 28 (Local authorities' initiatives in support of Agenda 21).* According to the Resolution of the Government 655/1997, the heads of regional offices and district offices should ensure application of Agenda 21 in development policies of regions and districts and evaluation of sustainable development indicators, which would be evaluated by regional and district councils for sustainable development. These include regional and district policies and action plans for sustainable development and local Agendas 21. It should result in 87 sustainable development policies which would be followed by action plans and 87 functioning councils for sustainable development. Control of meeting the Resolution of the Government would also reveal absence of any development documents.

It can be generally said that re-organisation of local state administration had in many cases adverse consequences. For example, due to **cancellation of independent environmental offices by the Act 222/1996 the efficiency of state administration execution in the area of environment has been considerably reduced** together with decrease of incomes of the State Environmental Fund by approximately SKK 130 million. Solution of environmental problems at regional and local levels has stagnated and the distance between the state administration and the citizens has increased. The efficiency decrease led to reduction of imposed penalties, increase of number of illegal constructions and waste dumps, stagnation of fulfilment of NEAP measures, etc..

Discussions with participants of seminars held in 1999-2000 in the framework of preparation of the National Strategy of Sustainable Development showed a **missing methodical guideline and education on Agenda 21, sustainable development indicators and importance of their application**. This is a place where the local state administration should play its role, in particular in relation to self-governments. Agenda 21 is evaluated by local state administration once a year (for CDC - Country Profiles - Slovakia) and the local authorities do not deal with it during the rest of year. Effective co-operation among the environment, regional development and other units is missing. It is therefore not surprising that **incorporation of Agenda 21 into regional development programmes and plans is missing and that environmental aspects are taken into consideration insufficiently in these documents**. Seminar participants considered cumulating managerial, regulatory and control functions in state administration authorities to be unsatisfactory.

### **3.6.7.7 Authorities of territorial self-governments**

Legal position of territorial self-governments is currently regulated by the Constitution of the Slovak Republic and by other specific Acts. The area of self-governments from the sustainable development point of view relates to the **chapter 28 of Agenda 21. *The Constitution of the Slovak Republic defines two levels of the territorial self-governments***. The first level is represented by *municipalities* and the second one by *higher-level territorial units*. Their position, competence and bodies and their relation to lower-level territorial units (municipalities) and to local and central state administration authorities should be laid down by a specific Act, which has not been published yet.

**Municipalities, as subjects of territorial self-governments**, have in accordance with legislation in force a different position, as compared to other subjects of public administration (ministries and other central state administration authorities). Lord-mayors, mayors and deputies of municipal councils are elected in municipal elections for a period of 4 years.

**Creation of two levels of local state administration without adoption of the Act on position and competence of self-governmental bodies of higher-level territorial units strengthens currently the role of state at the expense of territorial self-governments** and can adversely affect standardisation, powers and competencies of self-governmental bodies of higher-level territorial units and division of power between state authorities and authorities of self-governments.

**Current legal competencies of municipalities are very limited** and neither the National Council nor the Government can by the Resolutions assign commitments to municipalities in the area of self-governmental competencies (resulting for state authorities from approved governmental strategies, policies and various documents relating to economic, social and environmental policies), which the municipalities would be obliged to fulfil. At present, municipalities are not responsible for chapters of Agenda 21 according to the Conception of Agenda 21 application and evaluation of sustainable development indicators in Slovakia (Ministry of the Environment, 1997). Modification in the area of legal competence of municipalities and self-governmental bodies of higher-level territorial units can be the only key to solve this problem. This would allow enforcement of sustainable development requirements *within the framework of regional policy* in accord with the **European Charter of Local Self-government, draft European Charter of Regional Self-government** and with other international documents, such as the *Aalborg Charter of European Cities and Towns Towards Sustainability* (1994) or the *Lisbon Action Plan: From Charter to Action* (1996).

As concerns **support and initiatives of territorial self-governments in ensuring sustainable development**, financial advantaging of concrete municipalities can be achieved through providing subsidies from the state budget for execution of self-governmental functions or through providing financial resources from state funds. It is also possible to develop co-operation with municipal associations, including personal involvement of their representatives in decision-making of the advisory bodies of the Government. Important role is played and will be played by non-governmental organisations (in particular community associations, a rural parliament is under preparation).

Basic deformations in the area of functional proportionality between public administration, business and the third sector are as follows:

- Public administration carries out activities in areas where it is neither practical nor effective and its activity is insufficient in areas where it would be both practical and effective. One of areas, where activity of public administration is excessive, is administration of public estates, which in fact are not public, but private;
- Business sector is not strong and independent sufficiently, which is caused by communist inheritance and by growing clientism and non-market interventions of public administration in economic processes;
- The third sector is too small due to its juvenility and due to insufficient power and independence of the business sector (potential donors);
- Within the public administration another deformation is caused by over-dimensioning of state administration in comparison with self-governments (**relation to the chapter 28 of Agenda 21**) and over-dimensioning of public administration at central level in comparison with public administration at regional and local levels. In this respect it is necessary to administer public estates according to the rate of their regional character and impact. That means that the central level of public (state) administration should administer only public national estates, while the other estates should be administered at regional and local levels.

Examples of public estates can be: at central level – national defence and justice, at regional level – road network, secondary schools, regional planning, regional cultural facilities, at local level – water supply and sewerage, primary schools, territorial planning and building code. That means that the central level state administration should ensure co-ordination of struggle against criminality, struggle against international and organised criminality and the most important crimes having trans-regional character. The regional level state administration should ensure, for instance, road traffic safety, and struggle against important criminality. Majority of activities carried out to ensure struggle against daily criminality has evidently local nature and therefor **main activities in the area of public estate administration “protection of health, life and property of citizens” should be carried out at local level, where it should be ensured in particular by municipal police.** Today, the situation is unfortunately different and this public estate is administered by the state administration bodies and police.

So far the most detailed model of self-government funding (**relation to chapter 28 of Agenda 21**) is influenced also by sustainable development principles. This model is today largely a part of the process of public administration de-centralisation.

### 3.6.7.8 Justice

Justice in Slovakia is ensured by the Constitutional Court of the Slovak Republic and by a system of so called general courts (District Courts, Regional Courts and the Supreme Court).

**Competence of courts** is currently defined by the Constitution of the Slovak Republic and by specific Acts. The article 124 of the Constitution introduces that the **Constitutional Court of the Slovak Republic** is an independent judicial authority of the constitutionality protection. It has specific position, competence and execution means. The Constitutional Court can decide only if any other court does not decide on protection of fundamental rights.

The Constitution defines that **justice in Slovakia is carried out by independent and impartial courts at all levels separately from other state authorities**. The system of courts is constituted by the Supreme Court of the Slovak Republic and by other courts (District Courts and Regional Courts). Courts decide on civil issues (civil, family, commercial affairs) and on criminal issues. Besides this, courts also explore lawfulness of decisions made by other bodies – so called administrative justice.

**Objective of decision-making activity of courts is first of all to ensure due protection of rights and legally protected interests of parties involved**. As concerns opportunities relating to possible contributions in providing sustainable development, this is determined by a concrete *constitutional and legal arrangement of rights or obligations in force of legal and physical persons*, which should support sustainable development. As regards **constitutional-legal arrangement**, a starting point is here constituted by fundamental human rights and freedoms, political rights, rights of national minorities and ethnic groups, economic, social and cultural rights, right to protection of the environment and cultural heritage.

Concrete method of defining of content and guarantees of the constitutional right by concrete Acts is also important. Judicial procedures are regulated by procedural standards, which have to be respected (conditions for beginning of proceedings, form of right application – proposal, incentive, active authorisation of a subject, parties involved and others).

**Protection of human rights**, which support implementation of economic, social and environmental aspects of sustainable development, **can be enforced also within the framework of international legal mechanisms for their protection**. Positive role is played here also by the Council of Europe, representing an European system for protection of human rights and fundamental freedoms, since the Slovak Republic is a party to the European Convention on protection of human rights and fundamental freedoms.

Independence of justice is a key problem issue, which has to be addressed. As it is mentioned in the regular report of the European Commission on preparedness of Slovakia to accession to the European Union (October 1999), **it is necessary to strengthen independence of justice**, in particular by an amendment to the Constitution as regards appointing of judges and probationary period of judges. Impact of the governmental power on judicial power is unreasonably large. Independence of judges has to be solved also from the point of view of corruption. According to results of investigations, all groups of respondents mentioned often bribes in judicial processes and considered slow courts and low efficiency of the justice sector to be the most important obstacles in business. According to the NPAA 2000, **besides insufficient independence of courts it is low interest of the public and low legal awareness, obsolete procedural rules and ineffective and slow judicial process, which provide opportunities for corruption in the justice**

**sector.** The fact, that the Association of Slovakia's Judges worked out and in December 1999 adopted the **Ethical Code of Judges**, is a positive step. Equipment of courts with up-to-date information technologies is still insufficient from the point of view of increasing the work quality. It is necessary to extend education of judges. **Strengthening of institute of solving of disputes through non-judicial way is required to increase effectiveness of the justice sector.**

**Importance of justice in providing sustainable development** is at present insufficient, which results from a priority task to ensure protection of rights and legally protected interests of parties involved. Their activity can be carried out only in accord with the constitutional and legal arrangements in force and in accord with obligations of physical and legal persons, *which could help achieve sustainable development*. Level of environmental protection could be increased if accusations could be submitted also by civic associations.

### **3.6.7.9 Controlling authorities**

**Role of controlling authorities** and their importance for achievement of sustainable development is included in a number of Agenda 21 chapters - e.g. the chapter 8 (programming area B), chapters 27, 29 and 40 (programming area A, B).

The **Supreme Control Authority of the Slovak Republic** is an independent body carrying out control of use of budget resources, management of state property, property rights and claims of the state. Control activities apply to the Government, ministries and other central state administration authorities and subordinate authorities, funds, municipalities, public institutions and other legal persons and also to physical persons, if these administer resources of the state budget or state property.

The **Office for Nuclear Control of the Slovak Republic** is a central state administration authority in the area of nuclear control and supervision. It carries out state supervision in nuclear safety of nuclear facilities, assessment of plans for use of nuclear energy as well as commitments of the Slovak Republic resulting from international agreements.

The **Slovak Environmental Inspection** is a professional expert control body of the state supervision. It is divided into the headquarters and five main inspectorates – water protection, air protection, nature protection, waste management and territorial planning and building code.

Execution of state control and supervision also cover other areas, such as labour inspection, state building supervision, state health supervision, school inspection, state veterinary supervision, phytosanitary supervision, state fire supervision, monument protection, state trade inspection, pharmaceutical supervision, food supervision, policy, commercial supervisions, state supervision over social insurance, national labour office, retirement scheme.

Creation of an independent supervisory body over financial market is expected this year (1 July 2000) – the **Office for Financial Market**. This Office will carry out supervision over capital market and insurance.

**At present, extension of control competence of the Supreme Control Authority is under preparation**, including the Fund of National Property and public funds in general and control of management of public institutions with public financial resources and public property. The **Ethical Code for controllers of the Supreme Control Authority** was worked out and issued in January 2000. It implements the



international ethical standard while respecting national conditions determined by culture, language, legal and social system. As it is mentioned in the NPAA, all bodies carrying out control of public finances **will have to improve organisation of preparation to control, orient control activities to the main problems, improve technical equipment of controllers, increase expert level and build internal control** so that this control could cover all aspects of allocation of public funding and public property and ensure functional independence.

**Issues of public control and control of public institutions** are often discussed from the point of view of relations between citizen and public or between state administration and self-governments or within state administration. **A complex, inter-linked system of public administration control does not exist at present.** Even after control and after revealing shortcomings (the Supreme Control Authority, the Prosecution...) remedial measures and disciplinary actions have not been taken in most cases. Due to non-existence of a complex system the public control is not capable to cover all processes. **Shortcomings in information systems do not allow to sufficiently and rapidly find out data. Control activity in administrative procedures has not been solved yet; the administrative procedure Act of 1967 is not satisfactory.** Public administration, including local self-governments, is not sufficiently bound to organise public control. It necessary to differentiate in detail between control in the narrow meaning of the word, supervision, control, audit and other forms of control activity. **Current unclearness of individual forms of control activity considerably reduces efficiency of control system as a whole.** The situation is complicated by the fact that **individual public administration bodies usually control and are controlled.** The Conception of de-centralisation and modernisation of public administration (2000) should solve also these problems.

### **3.6.8 Scientific, research and expert organisations**

**In Slovakia scientific and research institutions** are divided into a number of sectors, namely the state sectors (bodies and institutions dealing with basic research, providing services and non-profit institutions managed usually by the state), the private non-profit sector (non-market, non-profit institutions and non-profit institutions and non-profit private persons), the university sector (universities and other organisations providing education after graduation from secondary schools, regardless their source of funding and their legal status) and the sector of foreign organisations (institutions and organisations seated abroad, which carry out research and development on the territory of Slovakia as well as international organisations seated on the Slovak territory).

**Universities, institutes of the Slovak Academy of Science and other research and development institutes have actively responded to the post-November transformation process since 1990.** In the area of the highest education there is a contribution of the Act on universities. A system of grants and accreditation of organisations has been introduced in universities and the Slovak Academy of Science. More than two thirds of organisations of the Slovak Academy of Science have been transformed to a contributory form of management. An important step was creation of the Accreditation Commission of the Government, role of which is to monitor, assess and independently evaluate and help increase level of education, scientific and artistic activities at universities.

Despite partial positive achievements, the current state in scientific and research organisations in all sectors is unsatisfactory. According to the Conception of further development of university education for the 21<sup>st</sup> century in Slovakia the scientific-

research basis has practically collapsed. We have a bad organisation of science and funding of basic research is quite insufficient. There are in particular two dangerous tendencies: decreasing amount of capital expenditures and considerable fluctuation in so called other expenditures (laboratory material, books, journals, communication services, energy, etc.).

These tendencies not only negatively affect the current research orientation of institutes but can even hamper re-orientation of research or future effective participation in international scientific and technical co-operation as well, despite the fact that research institutes co-operate with foreign institutes or use co-operation with international organisations in the area of science and research. It is, however, only partial co-operation, which requires more integrated institutional arrangements.

**Policy materials, which have been worked out in the area of science and research in the 1990-1998 period**, were not addressing such fundamental issues as funding, institutional and informational arrangement of science and research. Drafts of new development materials have been worked out or are under preparation at present. They deal with the above-mentioned issues in the area of science and technology, of which the following are considered to be key issues:

- Principles of state scientific and technological policy (approved on 25 August 1999 by the Resolution of the Government 727/1999), Ministry of Education, Bratislava, 1999;
- Conceptual orientation of technological policy of industries in Slovakia till 2003 (approved by the Resolution of the Government 621/1999) – in its introduction this material deals with a need of sustainable development of our society;
- Conception of state scientific and technological policy till 2001 (approved by the Resolution of the Government 724/2000 and by the Resolution of the National Council 1228/2000);
- New model of funding of science and technology (approved by the Resolution of the Government 561/2000).

**At present, generally binding legal acts**, according to which the funding of science and technology is ensured, cannot be considered to be sufficient. These Acts are under preparation in accordance with the legislative plan of the Government: draft Act on the Slovak Academy of Science, draft Act on science and technology, draft Act on inventions, industrial patterns and improvement proposals.

### 3.6.9 Educational institutions

Fundamental changes appeared in pre-school facilities, primary and secondary schools after 1989. For instance, private and religious secondary schools are being established.

**Pre-school facilities.** According to data of the Statistical Office (30 September 1998), there were 3,327 kindergartens, which were attended by 167,504 children (of that 447 in private and 205 in religious schools). As regards educational language, there were 2,912 kindergartens with Slovak language, 275 with Hungarian language, 14 with Ukrainian language, 102 with Slovak and Hungarian languages, 3 with Slovak and Ukrainian languages and 1 with German language. Current adverse demographic and economic trends are manifested in the pre-school facilities (cancellation of kindergartens at enterprises, introduction of payment to cover a part of expenses, parental contribution till three years of child age. etc.). Number of

private and religious kindergartens is low (in 1997, there were 16 private and 6 religious kindergartens).

**Primary schools.** According to data of the Statistical Office (30 September 1998), there were 2,484 primary schools (of those 17 private and 1,111 religious), which were attended by 647,877 children. The network of primary schools can be considered to be stabilised. In the 1997/1998 school year there were 255 primary schools with Hungarian language, 8 with Ukrainian language, 4 classes with German language, 30 schools with combined Slovak and Hungarian languages and 1 school with combined Slovak and Ukrainian. That means that obligatory education in mother tongue is ensured for a considerable majority of children coming from ethnic groups. As regards Gypsies, the situation is different because they do not have schools providing education in mother tongue. There are 86.55% of schoolchildren of Slovak ethnic origin and 89.46% of children attend schools with Slovak language.

Since 1989, the number of schools has increased by 180 and the number of classes by 665, however, due to the demographic development the number of schoolchildren has decreased, which had a positive impact on a number of children per one class (in 1997/1998 there were 22.6 children per class). State schools still prevail in the area of primary education. In the 1997/1998, of the total number of 2,401 primary schools there were 87 religious facilities and only 5 private facilities.

**Secondary schools.** Number of grammar schools has increased recently (in relation to necessity to increase the share of population with university education). Bi-lingual grammar schools are appearing, 6-year grammar schools, etc. (17% of youth study at grammar schools). Number of specialised secondary schools and number of students studying at these schools have also considerably increased (from 25% in 1988/1989 to 40% in 1998). Number of students in secondary vocational schools has decreased from 56% in 1988/1989 to 40% in 1998.

According to data of the Statistical Office on 15 September 1998 there were 205 grammar schools in Slovakia which were attended by 82,052 students (of that number 68,591 in state grammar schools, 3,739 in private and 9,722 in religious grammar schools), 376 secondary specialised schools attended by 116,495 students (of that number 109,177 in state, 4,921 in private and 2,397 in religious secondary specialised schools) and 349 secondary vocational schools attended by 130,312 students (of that number 127,102 students in state, 2,136 in private and 1,074 in religious secondary vocational schools).

Secondary vocational schools have been the most problematic schools after 1990. Interest in studying at these schools is decreasing, labour market stagnates and re-structuring of economy is slow. Conception in the area of sectoral competences and opportunities for enterprises to get involved in education of students is not clear. In the secondary education the state schools considerably prevail (as much as 92.5%), the only exemption are grammar schools, where religious schools account for 15%. There is still small number of private schools (for comparison in the Czech Republic the share of non-state secondary schools is 30%). Educational results of students (both in Slovakia and the Czech Republic) are still better at state schools than at private or religious schools. Even in some developed countries (Norway, Finland, Sweden) the percentage of private schools is very low (approximately 1-1.5%) and therefor the low number of private schools cannot be interpreted as lagging.

There were following fundamental changes in **universities** in 1990-1998:

- increasing number of university centres, in particular new university centres and increasing number of universities and faculties;

- progressive development of quantitative indicators – considerable growth of number of students and moderate growth of number of pedagogues;
- qualitative change in structure of pedagogues – increasing number of professors, senior assistants and assistants, but there is stagnation of an overall number of senior assistants and stagnation or even decrease of number of associate professors;
- changes in structure of students – increasing number of less traditional forms of study (distance study, special study), decreasing number (share) of foreign students.

There are at present 21 universities in Slovakia with more than 80 faculties, which is in relation to the number of inhabitants too high number. In the monitored period the number of university centres increased to 15. Besides the university centres also detached branches of universities appeared (22), including offices abroad (2). Based on the 1999 Act on establishment of the University of Management in Trenčín (with effect from 1 December 1999), the first non-state university has been founded offering a one-subject bachelor-level study in the subject of “enterprise management”.

The majority of universities has three-level study (**Bachelor – Bc., Master of Science – Mgr. or Ing. and Doctor – PhD.**), credit system, internal open system of study, election of officials and competitions have been supported.

Signing the **Convention on the Recognition of Qualifications Concerning Higher Education in the Europe Region** (Lisbon Convention), which entered into force for Slovakia on 1 September 1999), was an important step.

Advisory bodies for support of Agenda 21 and sustainable development have been created within the sectors of education and the environment: Central Council for environmental education at the Ministry of the Environment and Permanent Commission for ecological and environmental education at universities at the Ministry of Education.

The Government considers participation in educational programmes of Socrates, Leonardo da Vinci, Youth for Europe III to be a contribution. These programmes support international partnership co-operation of schools, educational and youth institutes.

**Institutes providing the lifetime education** – Besides existing educational institutes, which provide the lifetime education, new educational organisations are appearing: City University (in Bratislava and Trenčín), Academia Istropolitana Nova (as an independent educational institution providing alternative post-graduate education and research in the following areas: professional programme of applied economics, environmental economics, monument protection, journalism, European studies, etc.). New organisations have been established, providing expert education for officials in state administration and self-governments – e.g. the Institute of Public Administration Education, Foundation for Education of Self-governments in Slovakia (founded by the Association of Municipalities in Slovakia) with a network of 11 regional educational centres, etc.. An important role is also played by various training centres with international activities. An example can be the Regional Training Centre for the Basel Convention (on the control of transboundary movements of hazardous wastes and their disposal) for the Central and Eastern Europe in Bratislava, which has been working within the Slovak Environmental Agency for four years. Other educational organisations carrying out various educational activities include, for examples, Iuventa, Academy of Education, Agroinštitút. A great number of

educational are active in the third sector (a separate section within the Third Sector Gremium), an important role is played by SAIA. Educational activities and projects with international partners, oriented directly to sustainable development issues, are organised e.g. by the Regional Environmental Center Slovakia, Society for Sustainable Life, ETP Slovakia, Daphne, M.E.S.A. 10 and others. Non-governmental organisations (e.g. ASPEK) provide educational activities for the sectors of industry and trade. An important role is played by educational activities and projects of co-operation with foreign partners.

**Institutions providing linguistic education** have a special position among the lifetime education institutes. In larger cities the state language schools have been maintained, however, private language schools prevail. Besides that, the reputable foreign institutions, such as the British Council (in Bratislava, Banská Bystrica and Košice), the Goethe Institute, the French Institute and the Italian Culture Centre, the Austrian Institute for the Central and Eastern Europe in Bratislava and in other branches in Slovakia organise various forms of language courses. Large enterprises have their own educational centres oriented to language education.

Since 1990, a large number of strategic and policy documents for development of education have been adopted, including adoption of a specific conception supporting environmental and ecological education. None of the current or previously adopted conceptions brought systemic changes and therefore the education sector will have to carry out a fundamental reform.

In accordance with the legislative plan of the Government, other draft Acts should be prepared by the end of 2000: a draft Act of financing schools and a draft Act on universities. A new School Act is under preparation.

**The area of education** should undergo a process of a deep reform in the near future. The following policy documents have been worked out: draft policy for education development in Slovakia, draft policy for further university education for the 21<sup>st</sup> century in Slovakia, including plan for PhD education development. The Conception of education in public administration should play an important role in the area of lifetime education. The Ministry of the Environment has prepared a comprehensive draft of the Environmental Academy – programme for creation of a complex system of environmental education, which should be submitted to the Government in 2001.

### **3.6.10 Business subjects**

The **National Agency for Development of Small and Medium Enterprises** and a network of **Regional Advisory and Information Centres** and **Business Innovation Centres** were established in 1993 to support small and medium enterprises in Slovakia.

Despite the fact that the private sector accounts for 80% of GDP in Slovakia, the state ownership accounts still for important share in property of medium and large enterprises. **In 1999, a fundamental re-structuring of enterprise sector started, which will be accompanied by increasing effectiveness of bankrupts in enterprises. Two conditions are relevant for enterprise sphere: completion of privatisation and achieving progress in enterprise re-structuring.**

**It is necessary to promote change of orientation of enterprises from short-term to long-term development objectives, to achieving profits and quality of**

**management. A document oriented to** improvement of legal, regulatory and tax framework to support investments **is under preparation at present.**

Creation of the **Slovak Agency for Investment and Trade Development (SARIO)** is a measure of institutional nature, which will be a partner organisation for foreign investors and which will be competent to negotiate and to represent a number of state administration institutions. Draft measures to remove individual barriers to business are included in the following documents of the Ministry of Economy and the Government Office: Improvement of legal and regulatory framework for investment support (approved on 13 September 2000 by the Resolution of the Government 703) and Improvement of tax and duty framework for investment support (will be submitted to the Government). Draft measures in individual areas represent systematic solution of improvement of business conditions for both domestic and foreign investments in the Slovak Republic.

**Banks and insurance companies** have a special position among the business subjects. In 2000, there were in the banking sector 25 banking subjects, of which 23 banks and 2 branches of foreign banks and besides that also 10 representations of foreign banks. Orientation to general banking prevails. Special banks – the Consolidating Bank and the Slovak Guarantee Bank – are state monetary institutions. The Ministry of Finance and the National Bank of Slovakia are responsible for legislation in the banking area and for implementation of NPAA. Banking supervision is executed by the National Bank of Slovakia, which meets generally accepted requirements concerning effective and efficient execution of banking supervision. In 1999, the Government launched a fundamental re-structuring of banking and enterprise sector, which will be accompanied by acceleration of privatisation of selected banks.

Transformation of economy has required fundamental changes in the insurance sector. In 1990, there was only one, state-owned, insurance company in Slovakia – the Slovak State Insurance Company. In 2000, there were 27 insurance companies, of which 17 with foreign share. While the first newly appeared insurance companies were created as general insurance companies, in further period the companies started to specialise in some of insurance areas (life and injury insurance, legal protection insurance, travel insurance, loan insurance, etc.). A trend of increasing the share of life insurance in total volume of insurance can be seen. At present, in the framework of insurance against damage by third persons it is possible to sign an insurance against environmental damage (e.g. the GERLING insurance company).

Based on survey among selected Slovak banking institutions (carried out within the framework of analyses of institutional framework of sustainable development) it can be stated that requirements for environmental protection and sustainable development are starting to be implemented in banking policies – for example the First Municipal Bank, Tatra banka.

### **3.6.11 Non-governmental non-profit organisations and interest associations**

#### **3.6.11.1 Non-governmental non-profit organisations**

**The chapter 27 of Agenda 21** stresses an extraordinarily important role of non-governmental organisations in forming and implementation of participatory democracy and civic society. In accordance with Agenda 21, formal and informal organisations and rural movement should be respected as equal partners in its implementation. The fact that non-governmental organisations are independent

allows their full participation. Independence is therefore a condition for their real involvement. Sustainable development indicators include an **indicator concerning contribution of non-governmental organisations to sustainable development**, which is an evidence of importance of non-governmental organisations.

**Non-governmental non-profit organisations in Slovakia** can be registered as civic associations (the Act 83/1990 on association of citizens as amended by further regulations), foundations (the Act 207/1996 on foundations), non-investment funds (the Act 147/1997 on non-investment funds), or non-profit organisations (the Act 213/1997 on non-profit organisations providing generally beneficial services).

**Activities of international organisations in Slovakia** are regulated by the Act 116/1985 on conditions of activities of organisations with international element as amended by the Act 157/1989. International organisations can be registered also according to the Acts on foundations, non-investment funds and non-profit organisations. They can be founded also on the basis of a special Act (e.g. Red Cross, Matica slovenská).

According to data of the Ministry of Interior of January 1999, **there were 13,625 various non-governmental non-profit organisations registered in Slovakia**. Activities of non-governmental non-profit organisations describe these organisations rather than their registration level. A lot of organisations were established to meet one idea and later the activity is decreasing but registration remains. One of the best indicators describing the activity of organisations is the need and ability to inform the public, present their activities to the public and to get their support, ability to communicate with the state and business sectors, ability to gain and use financial resources. Non-governmental organisations in Slovakia cover almost all areas of our society; they advocate a whole spectrum of opinions, even if they work in one area.

**The Gremium of the Third Sector (G3S) works on the highest level**, which has achieved its status after years of discussion. The G3S is an informal panel for voluntary, elected representatives of individual sections, covering individual areas, in which non-governmental organisations are active. Long-term objective of the G3S is to build a civil society in Slovakia, a society of free and active citizens acting for their society. **From the point of view of enforcement of sustainable development in Slovakia the Ekofórum plays a key role within the framework of non-governmental organisations**. It represents a freely structured, horizontal platform of organisations, which feel to be environmental and which are at the same time non-governmental, non-profit and independent of commercial subjects and political parties. A Rural Parliament is being created at present, which should play an important role in enforcement of the reform and de-centralisation of public administration and which should contribute to an overall rural development. Important environmental organisations addressing sustainable development also include in particular the Society for Sustainable Life (with parallel organisation in the Czech Republic), Regional Environmental Center Slovakia (Slovak Office of the Regional Environmental Center for Countries of the Central and Eastern Europe), Environmental Training Programme – Slovakia, Greenpeace Slovakia, People and Water, Friends of the Earth Society, For Mother Earth, Slovak Union of Nature and Landscape Protectors, Ekopolis Foundation, Tree of Life, A-projekt, Energy 2000, SK BIOM, Free Association of Bratislava Civil and Protection Organisations, Trenčín Informal Association, Centre for Support of Local Activism, DAPHNE Civil Association, Vlk – forest protection association and others. Community associations play an important role. Numerous associations and organisations within the third sector are created by national minorities. For example, there were 114 civil associations and 15 political parties of the Gypsy minority registered according to

data of the Ministry of Interior (1 March 2000). In Slovakia there are four foundations, three non-investment funds and one non-profit organisation for generally beneficial services established by the Gypsies. An important role is also played by service organisations, e.g. the Slovak Academic Information Agency – service centre for the third sector, Changenet – computer network and others.

**Representatives of environmental non-governmental organisations** closed a framework agreement on co-operation with the Ministry of the Environment of the Slovak Republic in 1998.

**Statute of the Council of the Government for non-governmental organisations** was approved by the Resolution of the Government 738 of 31 August 1999. The Council is an advisory and initiative body of the Government to support activities of non-governmental, non-profit organisations. The Council involves 20 representatives of non-governmental organisations and 25 representatives of state administration. Co-operation between the Government and non-governmental organisations has been institutionalised through adoption of this statute. There are reservations, however, for example from the side of the G3S. The Council, where majority is held by state administration representatives, has become a partner of the Government. The G3S, representing more than 1,000 non-profit organisations, has in the Council only one vote like individual non-governmental organisations, which have been delegated to the Council.

Three features are typical for the third sector in Slovakia, when compared with situation in neighbouring countries in transition – relatively high level of awareness and co-operation, share in development of community initiatives and community philanthropy and ability to efficiently join democratic political processes.

**Number of non-governmental, non-profit organisations has been dynamically growing since 1990.** They are active in all areas of public-beneficial activities. In accordance with the situation in the EU countries or in other economically developed countries, **it can be expected that the number of people employed in the non-profit, third sector will grow in Slovakia (when compared to the EU, where the share of the third sector in total employment is 7%, this share in Slovakia is only 0.9%).** Change of activity structure of non-governmental, non-profit organisations in Slovakia and increasing incomes for their activities from public sources can be also expected. **Differences in employment and income structures point out at different functions, which are fulfilled by the third sector in Slovakia and in the EU. While in the EU the non-governmental organisation fulfil in particular service functions, in Slovakia it is enforcement of social changes, civil advocacy and community building.** Non-governmental organisations in Slovakia have independently and initiatively carried out various activities since 1990, which help citizens and considerably support orientation to sustainable development. In the post-revolutionary, political and social period of Slovakia, self-governments were the most important partners for non-governmental organisations. At present, their co-operation has a character of long-term, strategic alliance. Through their activities, non-governmental organisations improve:

- **effectiveness of public administration** (they contribute to improvement of decision-making process, informedness of the public, they also fulfil a role of control mechanism in application of decisions in practice, etc.);
- **integration of environmental and developmental issues in decision-making** (e.g. through active participation in processes of environmental assessment of developmental documents, through direct consultations at lower levels of public



administration, through solution of partial projects supporting sustainable development, etc.);

- **efficiency of enforcement of legal acts** (non-governmental organisations are very active in controlling compliance with legal acts in practice, they advocate adoption of new regulations contributing to support of civil society, protection and management of the environment, protection of human rights, etc.);
- **improvement of communication and co-operation among the scientific sphere, public administration and the public.** Non-governmental organisations contribute to enforcement of efficient mechanisms for access to information, information exchange, control of information quality, creation of partner relationships from international to local levels.

**Non-governmental organisations should play an important role as independent associations and media in combating corruption.** According to the National Programme to Combat Corruption (2000), their role will be to monitor situations in the area of combating corruption, contribute to general education in the area of combating corruption, carry out analyses and independent expertise, etc..

**Financial stability** of the third sector is one of the main tasks to build its long-term stability in Slovakia. It is a task, for which also the state is partially responsible. It requires a cross-sectoral and systematic approach, general acceptance of tasks and activities of the third sector from the side of the state and self-governments in building socially and economically sustainable development of the country. Reserves to strengthen the third sector should be sought first of all in domestic resources. The current state of financing is unsustainable and unstable and no support mechanisms are created and almost no resources are provided. This is evident for example in the state budget. High ineffectiveness, untransparency and inertia of various state support programmes and state investments still prevail and their rate of return is not calculated and identified from the point of view of sustainable development. Financing of non-governmental organisations is provided mainly from budget lines of individual ministries, through District Offices and contributions of self-governments. These incomes are unstable, provided only for one-year period and allocation criteria are changing. Basic resources and operational capital are missing in the third sector. Non-governmental organisations and the third sector hardly can pay young creative people.

Main conditions of stability of non-governmental organisations are in particular:

- ability to apply for support provided in accordance with the Acts on social aid, state aid, employment, regional development and tourism, etc.;
- support from privatisation of large enterprises for creation of capital of socially useful non-governmental organisations (1% from privatisation of large enterprises), de-centralisation of unnecessary state property to non-state non-profit subjects (buildings and lands);
- tax advantages and cancellation of VAT in the non-profit sector;
- establishment of a National Lottery with following categories: culture and art; cultural heritage; social, economic and community development; technical infrastructure of non-governmental organisations, sport and others;
- extension of membership basis of non-governmental organisations, public-private partnerships – created on the basis of knowing principles of sustainable financing and management of public and private estates (legislative support needed);

- sources of the European Union – SAPARD, PHARE, ISPA, CULTURE 2000, the 5<sup>th</sup> and 6<sup>th</sup> EU Framework Programmes and other EU resources;
- private foreign foundations and supporters.

### **3.6.11.2 Organised interests – establishment of interest groups**

**Interest groups of women.** After 1989, the monopolistic Slovak Women Union has transformed to the Democratic Women Union, which has been lately renamed to the Union of Slovakia's Women. In Slovakia there are a number of civil and interest associations addressing the issues or problems of women, for instance: Alliance of Slovakia's Women Civil Association, Aspekt Interest Women Association, Fenestra and Pro Familia. Other organisations work as social organisations, e.g. Forum of Entrepreneurs-Women of Slovakia, Society for Women in Science and Research in Slovakia. Others have appeared as independent woman organisations, partially also through extension of activities of an international organisation (e.g. Zonta Club, Federation of Women for World Peace, Professional Women, Club of Gypsy Women in Slovakia, Rural Women, etc.). This issue is addressed in the **chapter 24 of Agenda 21**.

**Interest association of youth.** Before 1989, there was a single youth organisation in Slovakia – the Socialist Youth Union (SZM). Its cancellation led to appearance of both successional organisations of SZM and organisations with historic tradition (e.g. the Slovak Scouting). Christian-oriented organisations were established. On the contrary to trade unions, youth organisations were re-organised after 1989 slowly, which was complicated by disputes and negotiations on use of the property of former monopolistic organisations. In the youth sector in 1990, the Youth Council of Slovakia was created as an independent association of legal persons providing an umbrella to newly appeared organisations. Its role is to associate youth organisations and to communicate with the Ministry of Education. At present, it represents 42 organisations. The youth organisations are divided as follows: social-political, interest, children and corporative. There are approximately 120 national civil associations in Slovakia working with youth and children. These organisations have more than 260,000 registered members. This issue is addressed in the **chapter 25 of Agenda 21**.

**Organisations representing interests of self-governments.** Interest associations, created within the framework of territorial self-governments, play an important role in building a civil society. After renewal of territorial self-governments in Slovakia in 1990, the **Association of Municipalities of Slovakia (ZMOS)** was created, which became a representative organisation and the main speaker of self-governmental units. The Association is a voluntary, interest subject, independent of political parties. Of the total number of 2,881 municipalities, there are 2,759 municipalities (96%) members of ZMOS (data of 31 December 1999). Specific problems of cities and their perception as unsolved problems during the first years of ZMOS existence resulted in an initiative of several cities to co-operate and organise outside of this organisation. At the beginning there was a Club of Lord-Mayors and subsequently the Union of Cities of the Slovak Republic. Other unions have appeared within the ZMOS with the aim to deal with specific problems: Union of Historic Cities and Towns and Union of Spa Municipalities. Professional and corporative associations were created in the self-governmental administration (Associations of chairmen of municipal councils, Association of municipal economists, Association of chief controllers of municipalities and Association of public works organisations). Other corporative organisations with relation to political parties appeared (e.g. Association of lord-mayors and mayors). Characteristic feature of the phase of territorial self-government renewal after 1990

was a process of association of cities and towns into regional unions, based on the initiative of ZMOS in order to jointly solve self-governmental problems of a certain territory. There are 57 regional associations. In this way territorial self-governments were solving partially absence of regional level of self-governments. The ZMOS Council, consisting of representatives of regional unions and being its highest executing body, has established 13 expert working sections, mostly on the basis of sectoral approach. From the point of view of sustainable development it is important that practically all areas are included in the expert sections: regional development, labour and social issues, agriculture, environment, health, economy and privatisation, international affairs. The original ZMOS section of education has been transformed to the Self-government Education Foundation, established by ZMOS. Objective of the Foundation and its 11 regional educational centres is to strengthen quality of local self-governments through activities supporting creativity, effectiveness and ability to respond to the needs of inhabitants and municipalities. The ZMOS representatives are members of almost all important governmental bodies, advisory bodies of ministries and other working bodies. ZMOS is represented in the Council of the Government for public administration, Legislative Council of the Government and in other advisory bodies of the Government. ZMOS, as an organisation of employers, represents interests of self-governments in negotiations with the Confederation of Trade Unions, it is a member of the Council of Economic and Social Agreement and since 1993 it has been a member of the Association of Employer Unions. From the point of view of sustainable development, a special role is played also by the **Union of Cities of the Slovak Republic (ÚM SR)**, which was founded in 1994. Its basic objective is to renew, protect and revitalise the natural and cultural heritage and sustainability of the environment in the cities. ÚM SR is also member of some of advisory governmental bodies, advisory bodies of ministries and other working bodies. Representatives of these two organisations are members of the Council of the Government for sustainable development. This issue is addressed in the **chapter 28 of Agenda 21**.

**Trade unions.** Former trade unions movement has re-organised rapidly after 1989, achieving a new legitimacy. The trade unions in Slovakia, due to non-violent political traditions and due to early creation of the tripartite, are oriented mainly to negotiations. Protest demonstrations and strikes are rarer in Slovakia, as compared with the situation in neighbouring countries. This issue is addressed in the **chapter 29 of Agenda 21**.

**Interest associations of entrepreneurs.** The Association of Employer Unions (AZZZ) is an important institution in the area of organised interests. It represents interests of the business sector and entrepreneurs as employers. The Association was created in 1990 and in 1998 it represented 36 unions and 7 associate members. Prominent representatives involve the Slovak Trade and Industrial Chamber, established by a special Act. When it started its activity in 1995, it had 13,311 members and 7 regional offices (at the end of 1995 there were as many as 22,090 members). After amendment to the Act, when the obligatory membership was abolished, their number decreased considerably (3,801 in 1998). In the area of business interests, further associations have been created (e.g. Association of Entrepreneurs of Slovakia, Slovak Business Union, etc.). This issue is addressed in the **chapter 30 of Agenda 21**.

**Corporative associations and chambers.** At present, there are several tens of corporative associations and professional chambers active in Slovakia: specialised chambers of auditors, advocates, tax advisers, architects, building engineers, doctors, pharmacists, medical assistants, agriculturists, food processors, etc.. Chamber system is an example of corporative association and interest

representation, because it has transferred some licensing competencies from the state to the associations. In accordance with the Acts their potential impact has increased, since the state guarantees the monopoly to represent interests of a certain profession and to regulate rules of its execution. This issue is addressed for example in the **chapters 29, 30, 31, 32, 35 and 36 of Agenda 21**.

According to categorisation, worked out by the Ministry of Interior, **sporting and physical-culture associations are the most numerous category among the registered organisations**. The second most numerous type are **land and garden clubs**. This division shows that, while pluralistic way of organising prevails within leisure clubs, relevant organised interests in the economic and social areas are oriented to corporative type of association. It is a logic consequence of the fact that these interest associations and groups in business need to communicate with the Government and other bodies, which make decisions important for them.

From the point of view of interests of organised groups in Slovakia, the tendencies have been strengthened after 1994 to apply a **model of the state corporativism, that means a system of mediating interests**, where the state considerably controls individual organisations and at the same time it guarantees monopolistic position in the society. Since the development after 1989 has inclined to a reverse model of representation of organised interests, which has been taking into account diversity of the civil society, encouraged activity of stakeholders and reduced role of the state, enforcement of the state-corporative model has been put to contradiction with previously prevailing trends.

**Creation of partnerships of the main social groups.** Creation of partnership with other large groups of the society is a very important role for the third sector. As a **concrete example** of efforts to create a new framework for **dialogue and more intensive co-operation among economic and social partners in the EU and Slovakia**, the Economic and Social Committee in Slovakia has been established, which associates representatives of the Slovak Industrial and Trade Chamber, Association of Employer Unions, Confederation of Trade Unions, Slovak Rector Conference and Panel of the Third Sector and as observers also representatives of the Department for European Integration of the Government Office. It is one of numerous examples of creation of commissions or committees, founded on partnership bases. Role of this Committee as an independent body is to participate in the integration process of Slovakia, participate in harmonisation and implementation of the European legislation in Slovakia, in activities of working groups in the framework of the negotiation team and in preparation of impact studies on implications of accession to the European Union through their representatives at expert level. Due to its impacts on the main groups of society, the advisory committee will collaborate also in the information campaign for the public, which will precede the referendum on accession to the EU after completion of negotiations.

### **3.7 REGIONAL CONDITIONS AND ASPECTS**

#### **3.7.1 Division of regional conditions and aspects**

Starting situation for ensuring sustainable development at regional and local levels is determined mainly by the conditions and aspects in the same main areas or spheres as it is at the trans-regional and national levels, i.e. in the following areas:

- a) cultural,

- b) social,
- c) economic,
- d) environmental.

In the case of Slovakia, it is extraordinarily important to take into account regional interrelations of sustainable development due to diversified structure of natural conditions, which belongs to the richest in Europe. Diversity of a country has been strengthened further by a number of cultural, ethnic, religious and political impacts, crossings of trade roads and also military expeditions. The year of 1989 brings a revival of such phenomena like private ownership, market economy, self-government democracy, etc., which naturally affect a re-growth of internal heterogeneity, inter-regional differences, partial renaissance of local and regional cultures, but social stratification as well. On the other hand, massive adoption of elements of the Western culture contributes to eradication of regional and national specifications and to their replacement by a unified "global culture" of the same advertisements, services, architectures, automobiles, packages and finally also behaviour patterns and value orientations.

The ability to make a sensitive and sound decisions and choices, what is an undesirable anachronism and what is an authentic national/regional/local value worth of preservation, support and development, constitutes one of the most important challenges, which Slovakia will have to face on the way to sustainable development in the near future.

### **3.7.2 Cultural conditions and aspects of regional development**

Inter-regional differences in cultural area are at present affected in particular by:

- the level of social, economic development of a region and level of service sector,
- character and intensity of capital inputs into a region,
- unemployment rate and conditions for its solution,
- capacity, quality and activity of human potential as the main development factor,
- spatial position of a region.

Renewal of a general basis of a settlement structure results in creation of conditions for the strengthening of **social capital**, which constitutes a combination of density of civic activities, associations and entities, density of networks and communication, density of social standards and level of trust in a community, settlement or region.

Application of analytical knowledge and principles of sustainable development for the area of cultural sources in regional scale should be derived from realisation of cultural, historical and social topography (CHST) worked out for all regions of Slovakia. Based on the survey elaborated in this way and knowing the material and spiritual phenomena, a qualified basis is being created for assessment of local resources, setting of the limits and development potential from the point of view of sustainable development. Through subsequent application and evaluation of these experiences they can be incorporated in concrete policies, territorial and development plans, which will be based on orientation towards sustainable development.

All regions have certain development pre-dispositions which are, however, different (some of them only latent, the other real). They are usually represented by quality

natural and recreational conditions and cultural and historical attractions. Because of a number of constraints in these regions (complicated access, lack of accommodation capacities, lower level of services and facilities), most of them are not able to utilise them effectively at present. The another important problem is lack of flats or unattractiveness of available flats and current state of flats. Available flats in problematic regions are unattractive because of problems of these regions. They are unattractive in particular for the young generation, which these regions need from the point of view of development of their potentials. The human potential is a central factor of development of each residential and territorial community. This potential is decisive for utilisation of other potentials of a settlement or territory (**relation to the Chapter 7 of AGENDA 21**). That means that a certain capacity (numerousness) of human resources to a great extent establishes a development framework of a settlement unit, conditions for life, work, leisure time, education, health and social services.

Most of derelict, unused and damaged historical objects are paradoxically situated in regions with the highest unemployment rate (e.g. Spiš, Sariaš, Gemer, Orava, surroundings of Prievidza). Analysis of data from the central list of cultural monuments of the Slovak Republic shows that approximately 2,500 cultural monuments are in a disturbed state and almost 700 in desolate state. From the regional point of view, these objects are situated in all areas of our territory. They constitute potentially building objects and work opportunities in the building sector, services and business (including tourism). They constitute an important factor of local and regional development from the point of view of sustainable development, since it concerns revaluation of original historical structures with application of mainly traditional and local materials (wood, sand, gravel, bricks, stone, lime) and domestic material base (technologies, inside equipment, etc.).

The criterion of assessment of present development of territorial and administrative structure of the Slovak territory and stability of borders of individual territorial and administrative units of the higher and lower order has been applied in identification of regions in the process of de-centralisation of the public administration. Based on historical analysis, it can be stated that naturally structured regions (determined by geographical division of the terrain and natural conditions) began to be formed as early as the 9<sup>th</sup> century. The basic structure of regions was formed in 13<sup>th</sup> to 14<sup>th</sup> centuries. Borders and internal division of this structure was very stable. It was preserved till 1922 and constituted one of the basic elements of individual models of territorial and administrative division also in the further periods till present. Forming of regional associations of municipalities after 1990, when local self-governments were renewed, is one of the features of high stability of historically formed regions. Assessment of stability of the territorial and administrative division on the territory of Slovakia has shown a direct relation between stability or instability of individual models of division of the public administration and the rate of respecting of historically formed regional structure.

The following territorial structure of the Large Territorial Units (VÚC) have been adopted by the resolution of the Government in the framework of the reform of the public administration, which respects existence of the higher settlement structures – centres of settlement and urban axes: Large Territorial Units of Bratislava, Trnava, Nitra, Trenčín, Žilina, Liptov – Orava – Turčany, Zvolen, Gemer – Novohrad, Spiš, Šariaš, Košice – Abov, Zemplín.

### 3.7.3 Social conditions and aspects of development of regions

The overall development of human resources of the Slovak regions is determined by the cultural development of regions, their natural conditions and economic characteristics. Based on this, regional differences in the basic social indicators have been formed.

**The share of urban population** as an indicator of settlement processes points out at forming and concentration of settlement structure of the Slovak population, which is rooted in the early Middle Ages. On 31 December 1998 the highest share of urban population was in urban districts of Bratislava and Košice (100 percent). Relatively high share of urban population (70.0-74.9 percent) is in the districts of Banská Bystrica, Zvolen, Ilava and Detva. Districts with 60-70 percent share of urban population are represented by districts with large central cities (Prešov, Poprad, Martin, Žilina, Trenčín) on one hand and on the other hand districts with smaller cities. The lowest share of urban population is in districts, which establish a background of two largest cities in the Slovak Republic (Malacky, Senec, Dunajská Streda, Košice - surroundings), in the geographically marginal districts of the northern Slovakia (Bytča, Čadca, Kysucké Nové Mesto, Námestovo and Trstená), in the northern part of the eastern Slovakia (Kežmarok, Stará Ľubovňa, Sabinov, Bardejov) and in the discontinuous range of the southern districts (Galanta, Šaľa, Nové Zámky, Levice, Krupina, Veľký Krtíš, Poltár, Rimavská Sobota, Rožňava, Trebišov).

**Age Index** - the most favourable situation is in the eastern Slovak region and in the northern part of the middle Slovakia (in particular in Orava and Kysuce regions), where the ratio of the pre-productive population to the post-productive population is usually higher than 120/100.

**Life expectancy of women** is the lowest in the range of the southern districts from Dunajská Streda to Trebišov, where it reaches maximally 75 years. The highest values are reached in the districts of the northern part of Slovakia (77 or more years).

**Life expectancy of men** is generally higher in the northern part of Slovakia. The lowest values are reached in the districts of Levice, Žiar nad Hronom, Veľký Krtíš, Lučenec, Rimavská Sobota, Rožňava, Trebišov, Michalovce and Čadca (less than 67 years).

According to a number of registered crimes the highest rate of **criminality** is in Bratislava and Košice and in the districts of Piešťany, Martin, Banská Bystrica, Zvolen and Lučenec, where it reaches a value of 20 crimes for 1,000 inhabitants. On the other hand, the lowest rate of criminality is in the districts of Trstená, Skalica, Nové Zámky and in the northern part of the eastern Slovakia (Kežmarok, Stará Ľubovňa, Sabinov, Bardejov, Stropkov and Medzilaborce) with less than 10 crimes for 1,000 inhabitants. Almost 94.4 percent of crimes of violence, 97.6 percent of property crimes and almost 98 percent of total criminality in Slovakia are concentrated in the district cities which account for less than a half of total population.

Regional differences in the **unemployment rate** show unfavourable situation in the eastern and southern Slovak regions. The average unemployment rate is high for a long time in these regions. In 1999 it exceeded the 16 percent limit with exception of the city of Košice (the highest rate in districts of Revúca – 34.9%, Rimavská Sobota – 37.0%, Veľký Krtíš – 31.8%, Stropkov – 30.1%, Rožňava – 32.6%, Sobrance – 31.1%, Trebišov – 32.6%). The lowest unemployment rate was in the western part of Slovakia and in large cities (Bratislava, Košice). The number of the unemployed and the average unemployment rate grow rapidly (12.97% in 1997, 14.69% in 1998,

18.39% in 1999 and more than 20% in May 2000). Adverse development of unemployment and deepening its regional disparities are alarming. Difference between unemployment rates in the western and eastern parts of Slovakia can be explained as a consequence of influence of several factors (relative geographical position with regard to centres of economic growth, share of employment in individual sectors of the national economy, educational and ethnic structure of regional population, regional business activity and its diversity, level of infrastructure).

Economic and social statistics allows aggregation of indicators of unemployment rate, social dependence and average salary. They directly or indirectly indicate the **level of poverty**. All three monitored characteristics reach very unfavourable values in three districts of the eastern Slovakia (Medzilaborce, Sobrance and Gelnica). Unfavourable values of the first two characteristics are reached in the districts of Rimavská Sobota, Rožňava, Spišská Nová Ves and Trebišov. From the point of view of the second and third indicators the least favourable situation is in the districts of Krupina, Revúca, Veľký Krtíš, Bardejov, Kežmarok, Levoča, Sabinov, Snina, Svidník, Vranov nad Topľou, Stropkov and Poltár. Growth of a number of the permanently unemployed, growth of a number of the socially dependent, low incomes of economically active population, weak industry and services, higher share of population working in agriculture and absence of up-to-date infrastructure are typical for the regions of poverty. Level of poverty is spatially differentiated (it is significantly higher in rural peripheral areas and higher in the eastern part of the country). Economic weakness of the Slovak rural areas, when compared to industrialised areas, leads to occurrence of new poverty, which is connected to the high unemployment rate of certain social groups and high dependence on social contributions.

**Level of education** of inhabitants is also regionally differentiated. A complete secondary education has been achieved by totally 62.3% of the population over 17 years of age in 1998, university education has been achieved by 13.3% of population over 22 years of age. Significantly over-average level of education is in Bratislava and Košice and values over average are reached mainly in the districts with university centres (e.g. Banská Bystrica, Martin, Žilina, Nitra). The lowest level of education is in geographically marginal areas of the northern, southern and eastern Slovakia, which are not sufficiently saturated with educational infrastructure (e.g. Čadca, Stará Ľubovňa, Bardejov, Dunajská Streda, Galanta, Komárno, Nové Zámky, Veľký Krtíš, Rimavská Sobota, Rožňava, Košice-rural areas, Trebišov).

Based on the above-mentioned facts, it is apparent that the human development index (HDI, see the Chapter 3.8) shows in the regions of Slovakia large differences. Several National Reports on Human Development have been worked out which assess these differences (the last one in 1999). The comparison of individual regions is determined by a sum of point assessment achieved in individual indicators (3 basic groups - to live a long and healthy life, to achieve education, to have access to means needed for a reasonable living standard and totally more than 20 indicators). According to the National Report the current state in Slovakia is characterised by considerable differences among various regions of Slovakia - as regards the achieved living standard, welfare, economic and human potential or conditions for further development.

Based on ranking in the mentioned indicators the final assessment of individual administrative regions has been established and the following order has been defined: Bratislava, Trnava, Trenčín, Nitra, Košice, Žilina, Banská Bystrica and Prešov regions.



The administrative regions have then been divided into three groups and the achieved state of human development has been characterised more closely (see Table 64).

Bratislava and its background territory have a specific position on the Slovak territory and the higher quality of life is conditioned in particular by economic potential of the region. The Bratislava region shows also high values of negative aspects of human development, such as criminality, air pollution, that can be considered to be a consequence of very high concentration of human activities in this region.

The phenomenon of the main administrative, economic and cultural centre of the state, effect of neighbourhood of Austria as an EU Member State and neighbourhood of the Czech Republic are demonstrated in the highest values of conditions for human development. The Bratislava region is followed by the neighbouring regions of Trnava, Trenčín and Nitra. On the contrary, the last position is occupied by the most remote Prešov region and without the city of Košice it would be very probably accompanied by the Košice region.

*Table 64 Regional quality of life in regions of Slovakia*

Order	Region	Population (% of the whole)	Conditions for human development
The most developed region	1. Bratislava	11.5	1. <i>Region</i> with good conditions for healthy and long life with developed network of schools and educational facilities and strong economic potential increasing the living standard highly above the average of the Slovak Republic.
Developed regions	2. Trnava	21.5	2. <i>Region</i> with average conditions for long and healthy life, good access to educational capacities and developed conditions for achieving a reasonable living standard.
	3. Trenčín		3. <i>Region</i> with good conditions for healthy and long life, average possibilities for education and developed living standard.
Less developed regions	4. Nitra	67.0	4. <i>Region</i> with good conditions for healthy and long life, good access to education, but comparably lower living standard determined by low economic power.
	5. Košice		5. <i>Region</i> with less proper conditions for long and healthy life, average educational capacities and developed economic potential, in particular due to the city of Košice as a regional centre.
	6. Žilina		6. <i>Region</i> with good conditions for long and healthy life, average possibilities for education and under-average economic power and purchase power of population.
	7. Banská Bystrica		7. <i>Region</i> with less proper conditions for long and healthy life, good possibilities for education and average living standard according to selected economic indicators.
	8. Prešov		8. <i>Region</i> with very good conditions for long and healthy life, but comparably low educational potential and the lowest economic efficiency and purchase power.

*Source: Vagač, L., ed., 1999*

Based on these results, it is apparent that the current state of development of human resources as a basic condition of sustainable development on the territory of

Slovakia from the regional point of view is not favourable, taking into account the persistent (and even deepening) regional disparities.

### 3.7.4 Economic conditions and aspects of development of regions

Regional dimension in the framework of economy has an important position in Slovakia, as it is also in the case of other conditions and aspects.

From the point of view of **efficiency of the economy** the Bratislava region has a specific position. Its economic power is determined by a synergism of extensive and intensive factors that leads to a dominant position of productivity of this region in all sectors of the national economy, except for agriculture. More than 33 percent of GDP is produced in this region and 60 percent of investment allocated in the Slovak Republic is located here. From the point of view of economic efficiency the Bratislava region is followed by the Trnava and Banská Bystrica regions. During recent period, these two regions (in particular the Trnava region) experienced the most dynamic growth of influence of intensive factors of economic efficiency relating to growth of added value in the framework of economic activities on the territory of the regions. The middle economic efficiency has been achieved in the Trenčín and Košice regions where the share of added value is relatively low despite relatively high volume of production. This concerns in particular the Košice region, where efficiency of income processes is the lowest among all regions of Slovakia. Low economic efficiency is achieved in the Nitra and Žilina regions and the lowest efficiency is in the Prešov region. In the case of the last region this is a result of synergism of extensive and intensive factors of economic efficiency, where even high share of added value can not balance extremely low share of production connected to deep under-capitalisation of the region, which has not been improved even in the recent period. In the case of the Nitra and Žilina regions the problem is similar to the problem of the Trenčín and Košice regions, only the share of added value is even lower, despite moderate growth of influence of intensifying economic efficiency factors in the recent period.

From the point of view **efficiency of industrial production** the leading position is occupied by the Bratislava region, followed by the Košice and Trenčín regions. These three regions accounted for 56 percent of industrial production in 1998 (the Bratislava region: SKK 319,500 pre inhabitant, the Prešov region: SKK 58,900 per inhabitant).

The Bratislava region has a leading position also from the point of view of **volume of building production**. The following positions belong to the Žilina and Košice regions. The lowest share of building production per inhabitant is in the Nitra region (SKK 38,000 per inhabitant to SKK 8,300 per inhabitant).

As regards the **market services**, the difference between the most efficient Bratislava region and the weakest Prešov region is more than 1,300 percent (SKK 90,400 per inhabitant and SKK 6,900 per inhabitant in takings and services in 1998). Non-market services prevail in regions with low economic efficiency and less developed technical and social infrastructure. These services, contrary to the market services, do not generate economic profit to such extent as the market services (however, from the point of view of sustainable development they can represent other benefits).

Dominant position of the Bratislava region is apparent also from the survey of share of regions in **export**, where this region generated 46 percent of export, while the Prešov region accounted only for 5 percent (SKK 176 billions and SKK 21.7 billions at current prices). The Bratislava region is followed by the Košice, Trenčín and Banská Bystrica regions.

Data on new **business activities**, represented in particular by small and medium enterprises, confirm the significantly specific position of the Bratislava region, which is followed by the Trnava and Nitra regions.

From the point of view of **trans-boundary impacts** on economic development there are different conditions in the western and eastern parts of Slovakia. On one hand, there is proximity of a country with developed economy (Austria) and, on the other hand, proximity of countries in transition (the Czech Republic, Poland and Hungary) and separately Ukraine, while economic co-operation with technologically more developed economies in this phase much more contributes to development of enterprises than the co-operation East-East, mainly due to transfer of technologies, expertise, investments, trade opportunities and trans-boundary mobility of the labour power.

The fact, that sufficient attention was not paid to maintenance and upgrading of infrastructure in Slovakia in the recent period, led to adverse impact on unequal distribution of economic activities, in particular in relation to transport.

Character of relation between the **growth of productivity of labour and salaries** is regionally differentiated and besides the level of labour productivity it depends on regional specifications. Economic efficiency of a region can permanently grow only if the labour productivity on its territory also grows and this growth is bigger than the growth of salaries. Such a positive development has been registered in the Bratislava, Žilina, Banská Bystrica and Prešov regions. In other regions a contrary process can be stated.

**Average monthly salary** in Slovakia is SKK 10,212. The Bratislava region, when compared to the national average, reaches an extraordinary position also in this area, when it exceeds by SKK 2,810. Comparison of individual regions highlights the lagging of the Nitra and Prešov regions. Difference in average monthly salary between the Bratislava and Prešov regions is SKK 4,684. From the point of view of monetary incomes of inhabitants, the highest dependence on extra-regional financial sources is in the Prešov and Žilina regions, the highest financial independence is in the Bratislava and Trnava regions.

The highest share in **total expenditures of population** in the Slovak Republic for goods and services is constituted by the Bratislava region (14.3%), followed by the Košice (13.8%), Nitra (13.3%) and Prešov (13.0) regions. While in the case of the Bratislava region it is a consequence of income of population, in other three regions it is a result of a number of inhabitants.

Economic indicators also clearly show existence of adverse regional differences among the regions of the Slovak Republic. **Halting the deepening of regional differences and their gradual mitigation** (however, not in direction to weakening the developed regions, but in direction of strengthening the lagging regions) **is one of the main challenges of sustainable development in the Slovak Republic for the nearest future.**

### **3.7.5 Environmental conditions and aspects of development of regions**

Environmental issues in Slovakia show, depending on variability of natural and socio-economic conditions, large spatial diversity. In order to define the development till these days, current state and expected development of environmental phenomena

and problems in relation to sustainable development it is necessary to take account of minimally two aspects:

- natural conditions of the landscape for utilisation by the man – natural structure and dynamics of the landscape, its potential and limits of carrying capacity of the natural landscape,
- environmental quality of the landscape – state and development of human impacts on the landscape, threatening and destruction of individual landscape components or individual landscape systems.

**Natural conditions of the landscape for utilisation by the man** are determined mainly by its primary structure which is decisive from the point of view of landscape productivity (its potential for utilisation), carrying capacity (stability, resistance) and limits for economic utilisation. This structure is transposed into types of natural landscape – with a certain level of simplification the territory of Slovakia can be divided into 5 basic landscape types with several sub-types, which constitute a basis for anthropogenic activities.

The basic "visible" manifestation of human impacts on the landscape is so called secondary landscape structure. The basic utilisation of the landscape can be expressed in several main groups – usually as an urbanised, agricultural, forest and unused landscape.

From regional point of view it is possible to assess representation of individual types of primary and secondary landscape structures and their mutual relationship.

*Lowland landscape* covers 35.1 percent of the Slovak territory and is the most widespread landscape type. It is typical for the southern, south-western and south-eastern parts of Slovakia. It consists of 9 basic regions (orographic units). Agricultural arable land prevails in this landscape type.

*Depression landscape of lower degree* covers 5.4 percent of the Slovak territory and consists of 11 regions. Mixed agri-forest land is the most wide-spread way of land utilisation.

*Depression landscape of higher degree* covers 3.7 percent of the territory of Slovakia and includes 4 northern Slovak depressions with prevailing mixed agri-forest land.

*Submontane landscape of lower degree* covers 12.1 percent of the Slovak territory and is spatially very differentiated (it consists of 46 regions). From the point of view of utilisation, the mixed agri-forest land prevails in this landscape type (53 percent of the area), the rest is covered by forests.

*Submontane landscape of higher degree* covers 1.6 percent of the Slovak territory and consists of 10 regions with prevailing mixed agri-forest and forest land.

*Montane landscape of lower degree* covers 18.7 percent of the territory of Slovakia and consists of 51 regions with prevailing forest landscape, followed by mixed agri-forest landscape.

*Montane landscape of higher degree* constitutes 20.7 percent of the Slovak territory and can be divided into 43 regions. It is connected mainly to the mountainous areas of the middle and northern Slovakia. Forest land is dominant.

*High-montane landscape* covers 2.7 percent of the Slovak territory in the highest areas of the Western Carpathians. Forest land prevails here, followed by hilly meadows and glacial landscape.

Taking into account high number of the regions (184), it is evident that the natural landscape of the Slovak Republic, in particular the montane and submontane

landscapes, is territorially very differentiated that has to be taken into consideration in the framework of the National Strategy for Sustainable Development.

**Environmental quality of landscape** relates to human impacts in the landscape, which is manifested by a long-term pressure on utilisation of the primary structure of landscape, its gradual modification to the secondary structure and creation of tertiary (socio-economic) structure, which *inter alia* constitutes protection of socio-economic interests in the landscape.

Quality of the landscape from environmental point of view (not from social or economic points of view) is a synergetic expression of quality of individual components – substratum and relief, soil, air, water, biota and urban environment, which establish a landscape system.

Environmental quality of landscape on the territory of the Slovak Republic can be expressed by several ways (see the Chapter 5). Complex influence of negative impacts on state of the landscape and its components can be expressed e.g. through a **territorial system of stress factors in landscape (ÚSSF)**, which defines basic elements of damaging and threatening of the landscape in a form of core, linear and large-area elements of influence of stress factors, while it distinguishes three levels of influence intensity (strong, medium, weak). The stress factors negatively affecting the environment, ecological quality (stability) and biodiversity include in particular:

- urban settlement, high level of urbanisation and accompanying economic activities – the most burdened territories are Bratislava with surroundings, the Middle River Váh Basin, Upper Nitra, the Žiar depression, part of the Spiš depression, Košice with surroundings, area of Vranov nad Topľou – Strážske – Humenné, practically all larger cities and their surroundings and also other devastated areas (Hnúšťa – Hačava, Jelšava – Lubeník, etc.);
- territories with emission burden – this factor relates with the previous one, burdened areas are to a certain extent the same as in the previous point;
- agriculturally intensively used territories – the Danube, Záhorie and Eastern Slovak lowlands, the Southern Slovak and Košice depressions, but also in other depressions of the Slovak Republic;
- forest areas threatened by immissions – a factor threatening in particular the health state and ecological quality of vast areas of forest eco-systems – in particular higher mountain areas in spruce vegetation level are damaged by immissions;
- areas burdened by intensive transport (in particular railways and roads) – this factor is a source of adverse influence of noise, emissions and other stresses on biota. The most burdened areas are represented by surroundings of the main transport lines concentrated mainly in depressions and lowlands of Slovakia.

A complex territorial system of stress factors should be at present under preparation by the Slovak Agency for the Environment (SAŽP) which has worked out and assesses the **environmental regionalisation of Slovakia**, which defines **5 degrees of environmental quality**:

- degree I+II – high quality environment or suitable quality environment – it covers 36,824 km<sup>2</sup> (75.1 percent of the territory of Slovakia), inhabited at present by 2,379 thousands inhabitants (44.4 percent of inhabitants). Such an environment is typical mainly for montane and submontane areas of Slovakia, less for urbanised lowlands with relatively acceptable level of impact of intensive agriculture;

- degree III – moderately deteriorated environment – it covers 7,306 km<sup>2</sup> (14.9 percent of the Slovak territory), inhabited at present by 964 thousands inhabitants (18.0 percent of the total Slovak population). Such an environment was assessed for urbanised areas of lowlands and depressions, often with adverse impacts of intensive agriculture (parts of the Danube and Záhorie lowlands, a large part of the Eastern Slovak lowland, parts of the Southern Slovak, Žiar, Zvolen, Upper Nitra, Trenčín, Ilava, Žilina, Turčany, Orava, Liptov, Poprad, Spiš, Rožňava and Košice depressions, relatively large area of Spišsko-gemerské rudohorie).
- degree IV – deteriorated environment – it covers 2,795 km<sup>2</sup> (5.7 percent of the Slovak territory), inhabited at present by 752 thousands inhabitants (14.0 percent of the Slovak inhabitants) and degree V – heavily deteriorated environment – it covers 2,109 km<sup>2</sup> (4.3 percent of the Slovak territory), inhabited by 1,262 thousands inhabitants (23.6 percent of the Slovak population). These two categories constituted so called threatened areas of Slovakia. Their area was specified in 1998 at 4,470 km<sup>2</sup> (9.5 percent of the territory of the Slovak Republic) and these areas are inhabited by 1,861 thousands inhabitants (34.6 percent of the Slovak population). They include Bratislava, Trnava – Galanta, Upper Nitra, Upper Považie, Middle Pohronie, Middle Spiš, Middle Gemer, Košice and Middle Zemplín areas.

State of the threatened areas of the Slovak Republic (threatening and damaging individual components of the landscape) is regularly assessed in the framework of the **State of the Environment Reports**.

**The Territorial System of Ecological Stability (ÚSES)** is a legally defined category for assessment of the state of landscape (in particularly its biotic components). Basic ÚSES documents are **the General Plan of Trans-regional Territorial System of Ecological Stability for Slovakia** (1992), documents of regional ÚSES of the former districts of the Slovak Republic (1993-1995) and the National Ecological Network of Slovakia (1996).

This survey shows that several possible ways of assessment of environmental (ecological) quality of territory or its positive and negative factors are used in the Slovak Republic. All these approaches have a strong regional (spatial) dimension and differentiate the territory of Slovakia from the point of view of a number of criteria. However, there is still missing an integrated approach to the issue, which would complexly assess three basic used approaches – assessment of negative factors (territorial system of stress factors), assessment of positive factors (backbone of territorial system of ecological stability) and whole-area assessment of influence of positive and negative factors (environmental regionalisation, degree of ecological stability used in the framework of ÚSES).

Regional aspects of sustainable development are very apparent and important also from the environmental point of view, in the framework of the National Strategy for Sustainable Development, however, they cannot be taken sufficiently into account, given the scale and level of details. Therefore it is necessary in this phase to stress some principles and important steps, which should follow in solution of regional strategies of sustainable development.

For subsequent regional strategies (agendas) of sustainable development, taking into consideration the above mentioned facts, the following steps are proper to take:

- specification of natural landscape types and their regionalisation for the territory, including assessment of productivity (potentials) of the landscape and its carrying capacity (stability, resistance),

- determination of regulators and limits of utilisation of the landscape, which bear in mind the natural structure of landscape as well as legislative aspects (protection of natural resources and other important interests),
- working out a unified system of environmental landscape regionalisation (environmental or ecological quality), which would bear in mind and integrate currently used approaches (territorial system of ecological stability, territorial system of stress factors, environmental regionalisation), including the principles, limits and regulators of utilisation of individual defined types (quality of environment, degree of quality or stability, etc.),
- comparison of secondary and tertiary structures of landscape (current use of landscape and interests of the man in landscape) to regulators and limits resulted from the primary structure, its limits and regulators, but also limits and regulators resulted from environmental regionalisation,
- working out and reasoning of principles and proposals for sustainable use of landscape , natural resources and landscape as a system.

### **3.7.6 Institutional conditions and aspects of development of regions**

The Government of the Slovak Republic in its Programme Declaration (November 1998) declares *as one of its priorities creation of institutional, financial and other conditions for a complex regional policy*. Support of regional development is in the European Union considered to be a key element of the policy of economic and social cohesion. This area is in the EU Member States connected to their national systems of support of regional development.

Besides requirements of the European Union, quality instruments have to be prepared and institutions have to be established or built to support sustainable development at regional level. Implementation of reform of the public administration is a key condition. Necessary instruments include first of all various planning documents, legal instruments (adoption of new legal acts, ratification of international conventions and other international commitments), extension of specific forms of education, advisory services and publicity. Implementation of regional policy requires improvement of access to information and application of new information technologies. As far as instruments are concerned, structural funds of the EU pre-accession assistance have a specific importance. Application of regional policy requires completion of building of new management and advisory bodies within the state administration and creation of further independent institutions.

Establishing an independent central state administration body – Ministry of Construction and Regional Development of the Slovak Republic, which is responsible for regional policy and support of regional development, was the starting step in fulfilment of this priority.

Support of regional development constitutes a key element in the policy of economic and social cohesion of the European Union. One of the pre-accession requirements of the European Union was creation and approval of necessary documents in the area of regional policy and regional development.

Regional development includes besides central issue of application of regional policy also issues of providing state aid, public procurement, budgetary planning, protection

of economic competition, labour market policy and is linked to gradual reform and improvement of the public administration.

In 1999 the following legislative measures were adopted or amended:

- the act 231/1999 on state aid,
- the act 263/1999 on public procurement and on modifying and amending certain acts,
- amendment to the act on economic competition.

Important documents, legislative measures, which have been worked out and approved by the Government since 1999, include in particular:

- Integrated Plan of Regional and Social Development of the Slovak Republic (Resolution of the Government of the Slovak Republic 923/1999),
- Principles of Regional Policy (Resolution of the Government of the Slovak Republic 725/2000),
- National Plan of Regional Development of the Slovak Republic (Resolution of the Government of the Slovak Republic 240/2001).

**Principles of Regional Policy** work out organisational, institutional, instrumental, programming and source possibilities for ensuring the activities of regional development. This document defines as one of the main objectives of regional policy in the Slovak Republic: *to support economic and social development of regions, in particular as concerns mobilisation of their insufficiently used economic and social potential, and to rationally utilise the territory, including protection of the environment*“.

**National Plan of Regional Development of the Slovak Republic (NPRR SR)** is a basic programming document for application of regional policy in Slovakia till 2006 and a fundamental condition for acquiring the financial sources from the pre-accession funds of the European Union (after accession of the Slovak Republic to the European Union from the EU structural funds). It provides a complex view on the current state of the Slovak Republic and its regions, barriers in development and proposals for their elimination via development priorities and strategies. The strategic objective of this document is: *To ensure such a growth of GDP which will allow the Slovak Republic to achieve the level of 60-65 percent of the EU average GDP per capita, while respecting sustainable development*“. The National Plan of Regional Development was worked out in a broad co-operation of representatives of state administration, self-governments, interest associations, educational and scientific institutions, third sector, small and medium entrepreneurs and financial institutions.

To provide a legislative umbrella for support of regional development the Ministry of Construction and Regional Development of the Slovak Republic prepared a **draft act on support of regional development**, which will define competence of individual stakeholders and basic strategic objectives in the area of regional development. Legislative intention of the act was submitted to the Government in March 2000. The act on regional development will create a legislative environment that will allow:

- implementation of an aim-conscious and strategic national regional policy,
- harmonisation of the basic principles of functioning of this sector of public administration with rules, which are in force in the European Union and their transposition into the national law,
- meeting the conditions resulted for this area from *acquis communautaire*.



Its target is not only to alleviate socially unacceptable regional differences and assist in revitalisation and re-structuring of regions, but to define competence of institutions dealing with regional development, to set their mutual relations and to define basic instruments of regional policy as well. Besides these targets and tasks this act should also support sustainable development in areas of protection of the natural resources, natural and cultural heritage and other public values. According to the intention of the act, the higher-level territorial self-government units are responsible for sustainable development of these territories. The act was a subject of discussion at the Legislative Council of the Government which recommended to complete the act and to harmonise it with the acts dealing with reform of the public administration.

Moreover, in the period 2000-2001 some legislative instruments relating to the reform of public administration under preparation (e.g. act on territorial and administrative division of the Slovak Republic, the act on self-governments of higher-level territorial units, the act on state statistics, the act on territorial (spatial) planning – draft act under preparation for 2001) will have to be adopted in order to take further effective steps in the area of regional policy.

Regional policy generally requires such a system of tools, which will allow its effective application at individual levels, while respecting and accelerating own internal resources in combination with external factors. The following structuring of tools complies with this condition:

from the point of view of level: tools of the centre, regional and municipal levels;

from the point of view of character of tools: programming, fiscal and other financial and non-economic (institutional, legislative, standardisation) tools.

In the programming period 2000-2006 the European Union provides candidate countries with financial sources from the pre-accession funds. The following pre-accession instruments are used to assist development of regions in the Slovak Republic:

**PHARE** – regional development and PHARE CBC – programmes, which in investment area provide sources for development of regions in the area of support of productive investments, development of human sources and solution of basic infrastructure.

**ISPA** – an instrument for implementation of structural policy in the sectors of transport and the environment.

**SAPARD** – an instrument for support of agriculture and rural development.

After accession to the EU, the Slovak Republic will be able to use the EU structural funds and the Cohesion fund.

Utilisation of financial sources from the pre-accession and later from the structural funds of the European Union will be carried out through the National Plan of Regional Development of the Slovak Republic. System of monitoring and assessment of the National Plan of Regional Development is ensured by two inter-linked bodies established on the partnership principle – **National Monitoring Committee and Regional Monitoring Committees.**

**Implementing Agency for Regional Development**, which was established at the Ministry of Construction and Regional Development of the Slovak Republic, plays a role of an implementing and payment agency in utilisation of the EU funds in the area of economic and social cohesion and trans-boundary co-operation.

**Bodies and agencies responsible for regional development include in particular:**

- Government of the Slovak Republic, which approves programming documents and fundamental measures relating to creation and application of the policy of regional development, submits the National Council legislative proposals affecting the policy of regional development, proposes the National Council a volume of financial sources from the state budget for the state regional policy;
- Council of the Government of the Slovak Republic for Sustainable Development, which should play an important role in verifying to what extent principles of sustainable development are being applied in regional development;
- Council of the Government for Regional Policy as a co-ordinating, advisory and initiative body of the Government dealing with issues of regional policy and co-ordination of structural tools. The function of the Council secretariat is played by the Department of Development of Regions (established on 1 January 2000 at the Office of the Government). The Council prepares to establish as its advisory body a Working Group for regional and structural policy (with representation of practically all major groups of the society – state administration, self-governments, professional institutions, third sector, etc.);
- Ministry of Construction and Regional Development of the Slovak Republic, whose main role is creation of a legislative and institutional framework for support of regional development, co-ordination of activities in creation of analytical and programming documents in the area of regional development. It is responsible for monitoring, prognosis of social and economic situation of districts and regions, assessment of inter-regional differences, elaboration of analyses and conception of socio-economic development of regions and ensuring the co-operation with the European Union in the area of economic and social cohesion and systemic linkage of regional policy of the Slovak Republic with neighbouring countries and countries of the European Union;
- Implementing Agency for Regional Development working as an institution with implementing function in the area of acceptance of foreign aid to support regions. Function of this Agency is provisionally carried out by the Department of Management of Regional Development at the Ministry of Construction and Regional Development. Regional centres of the National Agency for Regional Development will become an instrument of economic development of a region and linkage between self-government, private and public sectors;
- National Management and Monitoring Committee is to look after the National Plan of Regional Development of the Slovak Republic and to co-ordinate activity of regional and sectoral management and monitoring committees (at present role of this committee is fulfilled by the Preparatory Committee for the EU Structural Funds);
- regional offices and district offices (their departments of regional development and other sectoral relations) which institutionally ensure regional policy at regional level. After implementation of the planned reform of public administration all responsibilities in the area of regional development of a higher-level territorial unit will be transferred to self-governments. Self-governments of higher-level territorial units will work out and will be responsible for application of a programme of economic and social development of a higher-level territorial unit which will constitute a basis for elaboration of regional operational programmes, monitor and regularly (once a year) evaluate socio-economic development of a higher-level territorial unit;

- municipalities, which work out and approve a programme of economic and social development of a municipality and ensure its fulfilment, support development of municipal activities through generally binding regulations, they can create micro-regions with neighbouring municipalities;
- regional development agencies, which were created gradually in the period 1993-1997 (in most cases as associations of legal entities) with the aim to contribute to development of regions. They are oriented to development of small and medium businesses, advisory, publicity and mediative activities, organising training courses;
- regional management and monitoring committees, created for NUTS II, are based on the partnership principle and are to fulfil the role of regional partners at national and local levels.

### 3.7.7 Comprehensive assessment of application of regional policy

The current state of the Slovak regional policy is unsatisfactory and does not comply with principles and criteria of sustainable development. **Initiatives in the Slovak Republic oriented to regional development are being carried out in particular through national sectoral approaches, which are not regionally harmonised.** Effective tools and financial sources for regional development are missing. The Slovak Republic still does not have required legal, administrative and budgetary framework of an integrated regional policy in accordance with the European Union. These shortages should be eliminated by the Principles of Regional Policy of the Slovak Republic. Building an effective system of institutional management of structural policy is required in the framework of the **Special Preparatory Programme (SPP)** along with elaboration of the National Development Plan and pilot projects for selected sectors. Foreign experts are also expected.

Due to **unclear character of the Implementing Agency for Regional Development** and based on recommendation of the EU experts, its establishment has been postponed to later date because of time reasons and taking into account the process of de-centralisation of public administration.

**A decision on establishment of higher-level territorial self-government units should be taken quickly**, based on defined criteria with the aim of effective participation in programmes of international development and trans-boundary co-operation, gradual elimination of handicaps of marginal regions.

The key to promotion of requirements of sustainable development within regional policy is mainly the own initiative of territorial self-governments, e.g. in relation to such international documents like *Aalborg Charter of European Cities* towards sustainable development or the 1996 Lisbon *Action Plan*: from the Charter to action.

In connection to implementation of the reform of public administration (creation of self-governments of higher territorial units) it will be necessary within the acts to enact the right of self-governments (in accordance with the Article 11 of the European Charter of Local Governments and in accordance with the Article 11 of the European Charter of Regional Self-governments currently under preparation) to use judicial means to ensure free execution of their powers and respecting the principles of self-governments. In the future also a self-governmental higher-level territorial unit will have the right to apply to a court in accordance with the Article 142 of the Constitution of the Slovak Republic, taking into account its legal subjectivity.

**The system of effective integration and territorial operation of the state-supported agencies is still not solved.** At present approximately 70 agencies operate in various regions of Slovakia. After solving their mutual operation these agencies can be an important institutional tool supporting provision of information and advice at regional level.

**In relation with participation of non-governmental organisations in regional development and the EU pre-accession activities,** it is important that e.g. a co-operation of non-governmental organisations with competent authorities responsible for application of measures oriented to accession of the Slovak Republic into the European Union has been prepared. As early as since August 1999 representatives of non-governmental organisations are involved in working groups for elaboration of the Integrated Regional and Social Development. Representatives of the third sector should be also involved in the Advisory Committee of the Council of the Government for Regional Policy. The working group for regional development at the Third Sector Gremium in promoting the regional policy and regional development points out mainly at:

- missing act on support of regional development, in which it will be necessary to enforce principles that ensure transparency of financing the programmes and projects from the public sources, eliminate conflicts of interests and will not be threatened by changes of the Governments,
- existing barriers in seeking an optimal model of structure of ensuring the regional development, in particular:
- uncertainty of extent of a reform under preparation of de-centralisation and updating of public administration,
- incomplete process of negotiations with the European Commission on a definitive approval of submitted programming documents (Integrated Plan of Regional and Social Development of the Slovak Republic and Plan of Rural Development of the Slovak Republic),
- uncertainty of selection of a priority region for the Phare Programme 2000+ and provisional unacceptance of a priority region by the EC,
- sectoral approach, division of interests and activities of sectors and low level of willingness to an agreement,
- minimal transfer of any information from central levels to regions and among socio-economic partners.
- inappropriate structure of collection of statistic data within Slovakia.
- In this relation in order to solve these problems non-governmental organisations require:
  - to prepare a new structure and mechanisms of regional development as well as an act on regional development in compliance with preparation and application of a reform of public administration in Slovakia, which has a crucial importance for sustainable development of the society,
  - to understand regional development as re-distribution of public goods according to the principles of partnership, concentration, programming, complementarity, subsidiarity and transparency,
  - to prepare a structure and mechanisms of regional development, which will motivate people and resources in a region to ensure its sustainable development

and to use existing professional capacities in regions, enable co-operation and communication with inhabitants of a region, allow participation of all socio-economic partners in decision-making in the area of development of a region, will not depend on political changes, will be controlled by the public, will distinguish activities of sustainable development which cannot be carried out on a commercial basis in forming the regional structures and support system, will involve socio-economic partners in creation of a new structure and mechanisms of regional development as early as the preparatory phase.

**Balanced regional policy, optimally applied de-centralisation of public administration and resources and practical application of an institute of inter-regional solidarity belong to the largest challenges in promoting the sustainable development.**

Therefore it is necessary to transfer a number of objectives of achieving sustainable development on regional level (for each region) and to work out regional Agendas 21 with utilisation of the model project "Regional Agenda 21 for the Central River Hron Basin region" worked out along with the National Strategy for Sustainable Development.

### **3.8 ASSESSMENT OF THE STARTING SITUATION**

#### **3.8.1 Main areas and issues of development of the society**

Based on assessment of cultural, social, economic, environmental, institutional and regional conditions and aspects, the main areas and issues of development of the Slovak society for the National Strategy of Sustainable Development can be generalised. Their numbering is provisional and it does not reflect importance (weight) of an issue – individual issues are inter-linked and create a complex, synergetic picture of development and state of the Slovak society.

#### **A. International position of the Slovak Republic – position in the world community**

##### **1. Favourable starting position of the Slovak Republic in an international context, in a position closer to the developed democratic countries than to the developing and non-democratic countries**

- change of the international position of the Slovak Republic in 1990s – after the successful transition from socialism to democracy and relatively unproblematic split of Czechoslovakia, the Slovak Republic was created as an independent state based on principles of parliamentary democracy
- membership of the Slovak Republic in international organisations (UN, UNESCO, OSCE, Council of Europe, OECD), accession to international conventions, agreements and charters
- process of integration of the Slovak Republic into the European structures and trans-Atlantic structures
- existence of the EU pre-accession funds and process of approximation of the law, participation of the Slovak Republic in the 5th EU Framework Programme, various international projects, etc.

- anticipation of inclusion of the Slovak Republic in the developed world countries – relatively favourable demographic, social, economic indicators in comparison at global level – low values of mortality, abortion, relatively high level of education of the Slovak inhabitants, relatively high level of economy when compared to the developing countries
- gradual reduction of environmental debt from the socialist era

## **2. Opportunities and threats of the process of globalisation**

- opportunities relating to globalisation – better access to information, wider possibilities of education and professional groove, opportunities to put the Slovak products on the world markets (free trade in goods and services)
- unfavourable trends relating to the wide-world globalisation trends – loss of national identity, penetration of alien cultural, social and economic patterns, excessive penetration of trans-national companies into the domestic market (international financial market), global environmental problems, etc.
- unpreparedness of the society to the mentioned threats and opportunities – prevailing fear of threats

## **B. Internal policy, public administration and participation of the public in decision-making – bases of functioning of a democratic state**

### **3. Development of democracy, political pluralistic system, legal instruments and institutions in 1990s**

- complex change of socio-political conditions and basic reforms in all areas of life – a fundamental modification of instruments, bodies and institutions for ensuring management of the society – e.g. the area of planning (abandonment of a directive system of planning), legal system and economic tools (gradual harmonisation of our legal system and economic tools with the law and economic tools of developed democratic countries)
- gradual complex change of the legal system of the Slovak Republic after the amendment of the Slovak Constitution with gradual adoption of new cross-sectoral legal instruments and instruments for social, cultural, economic and environmental areas with orientation to application of sustainable development
- gradual application of values of democracy (emancipation, autonomy, self-realisation, greater impact of citizens in decision-making, protection of rights to freedom of opinion, safety, calmness and order)
- declaring sustainable development in the Programme Declaration of the Government as a prerequisite for accession of the Slovak Republic to the European and trans-Atlantic structures
- support of principles and criteria of sustainable development in some cross-sectoral development conceptions and legal instruments of the Slovak Republic
- positive role of the National Council of the Slovak Republic in introduction of the social and market economy

- deepening democratisation and humanisation of the educational system, development of educational opportunities and equal access to education
- positive changes in the area of functioning of institutions in the area of education, advisory services, publicity, science, research, information, etc.
- building a state information system, sectoral information systems and governmental data network GOVNET

#### **4. Problems in meeting some roles of the state, public administration and main institutions**

- missing dimension of strategic and long-term planning and management of the society – short-term horizon of planning without respecting the long-term and permanent priorities of the society
- still existing unconceptual approach of governing political parties to application of the key reforms of the society – preferring the interests of parties against interests of the society (linkage between the state and parties), overall slow and low efficiency of reforms of the society
- insufficient application of some constitutional principles in practice – e.g. representational and direct democracy (relates to incomplete reform of the public administration)
- insufficient compliance with some of the international commitments and national legal instruments and documents in relation to sustainable development, e.g. non-application of results of UNCED (Resolution of the Government 718/1992) in the economic and social areas, insufficient application of the results of AGENDA 21 (Resolution of the Government 655/1997)
- insufficient enforcement of the law, non-compliance with some acts and instruments (partially also by the state authorities)
- shortages in conceptual activities of the central authorities of the state administration – non-application of principles of sustainable development and strategic environmental assessment in process of adoption of basic development conceptions and legal instruments
- insufficient quality of public administration performance – still existing sectoral approach in activities, insufficient transparency, prevailing administrative and operational activities over conceptual activities, time-consuming procedures and insufficient flexibility in activity, preferring political and economic interests
- insufficient functioning of the control system in public administration
- unsatisfactory division of responsibilities between the state administration and the public administration (redistribution of taxes and public sources), improper strengthening of role of the state at the expense of territorial self-governments resulted from insufficient strengthening of self-governmental sector after 1990, incomplete reform of public administration, its insufficient and slow application
- small emphasis on development and financing of superstructure sectors of education, culture, social affairs and family and the environment in the state administration system, dominance of production sectors
- unsolved relations in the area of natural resources – disputes over competence of the sectors of the environment, soil management and partially also economy in

particular in the area of management and protection of water resources, soils and forests

- improper re-organising of the state administration in the environment sector in 1996 – insufficient financing and reduction of efficiency of the state administration performance in this sector
- excessive rate of corruption in the society – concerns all areas of economy, mostly however in the public administration, justice and police, some of the social sectors (e.g. health service)
- in the area of personal, financial and material assurance insufficiently organised, prepared and equipped armed forces with insufficient sources that leads to discrepancy between the process of accession to the European Union and NATO and possibilities to upgrade them
- still existing insufficient support of inhabitants of the Slovak Republic for integration process and accession of the Slovak Republic to the European and trans-Atlantic structures
- insufficient quality of functioning of the internal safety system – the state policy based on a repressive system for a long time with insufficient criminal prevention (protection of the society against an individual in the past), unsolved issue of competence of city polices
- unsatisfactory functioning of justice – dependence of judges on political power, questions of corruption, slow decision-making procedures
- insufficient co-ordinating mechanisms and co-operation among sectors in projects oriented to sustainable development at local and regional levels, insufficient conditions and support mechanisms for implementation of sustainable development in the Slovak Republic
- undeveloped indicators of sustainable development for purposes of decision-making at local, regional and national levels, insufficient quality of information for decision-making

##### **5. Positive, but so far insufficiently used, role of non-governmental organisations, interest groups and public in development of the society**

- partial democratisation and de-centralisation of management of the society, approximation of the public administration performance to a citizen on the subsidiarity principle
- positive influence of the third sector (non-governmental organisations) in all societal areas (in particular environmental, social, human) – mutual co-operation, development of community initiatives, support of democratic political processes
- positive role of interest associations in promoting regional, local or sectoral policy, e.g. Association of Municipalities of Slovakia (ZMOS), Union of Cities of the Slovak Republic (UM SR), creation of partnerships of the main groups in the society
- insufficiently working civic society – insufficient support of some human rights and civic freedoms of citizens from the side of state authorities, insufficient application of equality of opportunities



## **C. Value orientation of inhabitants and legal awareness, education**

### **6. Disturbed legal awareness and adverse value orientation of inhabitants**

- disturbing of natural legal awareness (internal isolation and passivity of absolute majority of citizens), refusing responsibility for public affairs
- high rate of tolerance of the public to illegal behaviour, socio-pathological phenomena and to some types of asocial behaviour and racism
- double moral – discrepancy between proclaimed Christianity of majority of inhabitants and real moral in the society
- still existing adverse trends and value orientations from the socialist era of development of the society, occurrence of new negative trends (so called value chaos in the society) – withdrawal of traditional values (diligence, discipline, responsibility, modesty, mutual understanding) in favour of preferring individualism, material values, excessive consumption and relating way of life
- low interest of citizens and the whole society in issues of the environment, insufficient awareness of connection to the nature
- uncertainty and frustration of a part of the society (mainly in rural areas) relating to transition from a totalitarian regime to democracy
- substitution of traditional long-term consumption patterns (based on modesty) for consumer patterns based on excessive production and consumption and consumer way of life
- insufficient education in building a legal awareness and value orientation
- minimal informedness of citizens about the sustainable development issues

### **7. Negative aspects in assurance of cultural development and national awareness**

- insufficient and partially deformed historical and national awareness of majority of inhabitants (caused by nationalism or historical agnosticism)
- insufficient presentation of achievements of historical investigations despite relatively high level of historical research, ideologisation of historiography
- adverse trends in development of culture – insufficient functioning of cultural facilities, suppressing the traditional cultural values, preferring the imported, mass and violent culture

### **8. Problems in development of education, science and research**

- improper structure of education at primary and secondary education level based on a lot of information and lack of practical activities and skills
- insufficient emphasis of education on a European dimension, tuition of languages, information technologies
- quantitative growth of university education at the expense of quality (growth of number of students at the expense of modernisation and quality of education)

- absence of strategy of development of educational system, slow transformation of university education, non-systematic introduction of measures, insufficient participation of the public in reforms
- unsatisfactory state in science and research – insufficient orientation to problematic research and insufficiently flexible system of research, long-term lack of funds, insufficiently worked out conception documents
- insufficient development of theory of the sustainable development conception, insufficient transfer of scientific knowledge to information and practice

#### **D. Territorial development, territorial planning, building code and lagging building**

#### **9. Unbalanced development of settlement environment (cities and rural areas), discrepancy in planning activities**

- prevailing discrepancy in territorial planning, regional planning, sectoral planning, interests of regions and municipalities, interests and activities of state administration authorities – promoting group and sectoral interests at the expense of application of sustainable development, intentions and approaches are not unified
- enacted optimisation of spatial arrangement and functional utilisation of the territory have not been ensured
- low extent of elaboration of territorial planning documentation at local level (more than 50 percent of municipalities do not have territorial plan)
- increasing differences between the rural and urban environments (demographic, socio-cultural, economic areas) leading to deepening of inter-regional differences, in particular in the framework of core and marginal regions, forming of problematic regions – based on long-term disturbing of natural form of settlement, overpopulation of cities and depopulation of small rural settlements
- still existing insufficient attraction of rural settlements (in particular those located in longer distance from urban centres) – lack of work opportunities, low rate of occupation of flats, relating social and economic problems
- prevailing adverse migration trends of inhabitants – continuing process of depopulation of rural areas (in particular small villages) accompanied by further indirect factors (demographic, social, economic, insufficient infrastructure), partially counterweighted by the process of concentration of inhabitants in urban hinterlands
- growth of negative phenomena in urban environment – adverse demographic trends, lack of flat stock, consumer way of life, loss of social control, socio-pathological phenomena, environmental and transport problems

#### **10. Forming development of residential environment (cities and villages), discrepancy in planning activities**

- significant regional differences in economic efficiency of regions which is reflected also in the rate of foreign investments

- great regional differentiation of unemployment as a result of influence of a number of factors (relative geographic location with regard to centres of economic growth, share of employment in individual sectors of the national economy, educational and ethnic structure of regional population, regional business activity and its diversification, level of infrastructure)
- large regional differences in the area of education (connected to the ethnic issue)
- large regional differences in infrastructure – insufficient facilities in rural areas (sewerage system, water supply, gas) in particular in marginal regions, insufficient access of peripheral regions and areas (road and railway network)
- regional differences in quality of road network and transport connection – insufficient access mainly of peripheral regions, decreasing frequency of transport connection
- significant and overall deepening trend of forming so called marginal (peripheral) regions characteristic of lagging behind central regions almost in all areas – growth of number of the long-term unemployed, socially dependent inhabitants, small income of economically active inhabitants, high dependence on social incomes, low level of industry and services, absence of modern infrastructure

#### **11. Still existing problems in building and maintenance of flat and house stock**

- low quality and state of flat stock, insufficient maintenance (lack of investment in repairs and maintenance) of flat stock despite the fact that the flat stock is relatively new and infrastructure is good in particular in cities
- restitution process, return of property to owners – condition for better maintenance of residential and technical objects (e.g. re-construction of city centres and large number of objects)
- application of some positive programmes in the area of maintenance of settlements (Programme of Rehabilitation of Village, Nice Municipality)
- insufficiently developed market with flats leading to low mobility of inhabitants which negatively affects labour market and increases unemployment
- unsolved proprietary relations to technical infrastructure of municipalities (transfer of ownership of infrastructure to municipalities)
- still existing regulation of rental prices and flat services (deformed relation of inhabitants to property)
- monofunctional uniform construction in recent period – emphasis on external effect instead of modesty and functionality of an original construction, ignoring local conditions and continuity – extremes of the socialist construction are replaced by new era extremes of architecture of villa districts of “millionaires”
- insufficient protection of monuments in settlements – bad construction state of monuments, often serious impairment by improper adjustments, low-quality and uncoordinated activity of responsible organisations, unsolved legal and financial assistance for owners and tenants of monuments and historical buildings (leading to lack of funds for maintenance and repair of buildings)
- insufficient protection of cultural monuments – weak co-ordination, low quality of professional management, conflict of interests, unsatisfactory financial and personal assurance

- stagnation of building activities, including flats and services to inhabitants as well as export of construction works, adverse structure of construction works (low share of repairs and maintenance of small buildings, preferring large building objects of infrastructure and energy constructions)
- non-application of traditional skills and crafts in management of landscape and settlements – gradual extinction, replacement by new, often improper, technologies

## **E. Socio-human dimension of sustainable development**

### **12. Adverse demographic trends and structure of inhabitants**

- adverse demographic trends (phase of so called second demographic transition) and significant change of demographic behaviour of inhabitants of the Slovak Republic in 1990s – partially a natural process identical with situation in developed countries with partially modified internal conditions (social factors, lack of flats)
- decrease of natural growth of inhabitants (in particular significantly decreased birth rate), increase of average age and worsening of age structure (stagnating type of population)
- low life expectancy and its slow growth (when compared to developed countries – increasing differences), significant difference between the average life expectancy of male and female populations, large regional differences (urban areas – rural areas, west – north and east), different demographic behaviour of the Roma ethnic community

### **13. Adverse health state and health care, improper nutrition and lifestyle**

- adverse health state of population – high sickness rate and mortality (reasons are in particular diseases of cardiovascular system, malign tumours), low life expectancy – reasons are unhealthy lifestyle (nutrition, other risk factors), social conditions, adverse state of the environment
- low personal involvement of citizens in their own health – still existing risk factors of nutrition and health – excessive consumption of food, bad nutrition behaviour, smoking, alcoholism, stress (despite partial positive trends in the area of nutrition when compared to the period before 1990)
- unclear health policy, insufficient financing of the sector, insufficient primary prevention and education to the healthy lifestyle

### **14. Negative aspects of social structure of the society, growth of unemployment rate and poverty**

- impairment of natural social structure of inhabitants (rich, middle and poor class) and private proprietary relations
- relatively small numerousness of the middle class and excessive representation of socially weak group of the society, distribution of a large part of the national property among a small group of politically privileged class

- highlighting social differences – growth of the number of inhabitants living in poverty, highlighting regional disparities, occurrence of psychosomatic problems
- high unemployment rate – key problem of economy and social area with tendency of continual adverse development (unemployment rate belongs to the highest ones in Europe)
- adverse internal structure of unemployment – high share of the registered unemployed for one vacant position, high and growing share of the long-term unemployed, unemployed among the university graduates and socially weaker groups
- low mobility and insufficient qualification of the labour power – in particular in rural areas and within the threatened groups of inhabitants
- insufficiently effective and low-motivating social system which does not solve problems of unemployment and poverty
- insufficiently efficient system of control and penalising of illegal employment, absence of an official programme for support of the poor and their social inclusion in the society

#### **15. Problems of position (gradual social exclusion) of the threatened groups in the society**

- deepening problems of the threatened and risk groups of population – Roma population, youth, the elderly, young families, incomplete families, the long-term unemployed, people with lower education
- increasing problem of identity and self-realisation of the youth in the society – increasing pressure on consumer expectation, alienation from a traditional environment, discrepancy between expectations and real possibilities, reflection in value orientation
- insufficient fulfilment of the role of family in the society (in particular upbringing and educational roles)
- increasing problems of the elderly (in particularly post-productive inhabitants) – worsening health, economic situation, inter-personal relations
- large changes in position of women – increasing emancipation and increasing demands put on women (household, position in work, public life), still existing differences in salaries, career progress and representation of women in public life when compared to men

#### **16. Lag of the Roma population**

- increasing and even accelerating problem of the Roma population, perceived as an ethnic problem – increasing discrepancies between the majority population and the Roma population
- adverse socio-political situation in the most of Roma communities is a result of complex problems – bad health state, low level of education, health and social awareness, low standard of housing, personal hygiene, communal hygiene, devastated environment around settlements, insufficient drinking water supply, improper nutrition regime, smoking, alcoholism

- increased emigration of the Roma population to countries of the Western and Northern Europe in 1999-2000
- up to the present failure in attempts to solve the Roma issue

### **17. Increase of socio-pathological phenomena**

- increase of criminality on the Slovak territory – increase of proprietary criminality, penetration of criminality into the safety structure of the society, new forms of criminality – organised criminality, drugs, extortion, kidnapping, etc.
- regional concentration of criminality in cities, in the recent period transfer of criminality from large cities to smaller cities and towns
- increase of other socio-pathological phenomena – drug addiction (including alcoholism), prostitution
- insufficient reaction of the society to socio-pathological phenomena – insufficient legal instruments, tolerant attitude of citizens, still existing corruption and clientism

## **F. Economy and economic development**

### **18. Character of economic transformation after 1990**

- low-successful economic reform in 1990s – accompanying troubles of macroeconomic balance (relatively high growth of GDP accompanied by disproportionate growth of unemployment and foreign debt), lagging in development when compared to developed countries (obsolete structure of economy, deepening differences in real growth of GDP, high energy and material consumption in economy)
- insufficiently respected external factors of development (civilisation trends and transformation to post-material society, transition of the world economy to utilisation of modern information technologies), insufficiently built institutions, absence of economic conception of sustainable development
- structural deformations of economy – leading to structural unemployment, low efficiency of economy (classic industrial hierarchy, high level of monopolisation, centralisation and concentration leading to misuse of monopolist position, low competitiveness)
- insufficiently profiled sectors of information economy, digital economy and electronic business – significant lag of Slovakia in all areas of development of information society, absence of strategy and programme

### **19. Accompanying phenomena and negative manifestations of economic reform**

- orientation of the Slovak economy towards developed Western countries – nominal growth of foreign-trade exchange, significant change in territorial structure (centre of exchange on the Western markets)
- relatively satisfactory development of inflation, monetary development and policy during the economic reform in 1990s

- achievement of a different quality of creation of national product – significant increase of share of private sector in creation of GDP (approximately 85 percent), significant liberalisation of economy, increase of share of tertiary sector in creation of GDP
- growth of foreign indebtedness and low-effective use of resources (high share when compared to GDP also per capita, low share of export to foreign debt), adverse time structure of debt and growing costs for debt service, growth of net indebtedness
- permanent deficit of trade balance, improper structure of export and import – products with lower level of processing and use of modern technologies and products with lower value added prevail on the side of export and goods for longer-term consumption, investment and component products demanding a high rate of science and research inputs with a high value added prevail on the side of import
- insufficient representation of foreign capital in economy of the Slovak Republic (the lowest when compared to other Visegrad countries) – this is a result mainly of unstable political and economic environment, high legislative risk, non-transparent privatisation, incomplete privatisation of banking sector and reduction of rating of the Slovak economy
- adverse development of the state budget (permanent growth of deficit and public debt) – fiscal policy based on long-term excessive expenses instead of real incomes
- adverse development of tax incomes (low share of incomes from taxes of legal entities, decrease of taxes from income of physical persons)
- issuing state guarantees for problematic loans into infrastructural projects with questionable rate of return and without linkage to increase of export performance
- non-functioning capital market – stagnation and failure of basic functions and law
- unreasonable expansive financial policy of the state in the last decade – lack of funds for private sector, increase of interest rates, indebtedness of the state
- non-transparent use of sources of the state purposive funds, insufficient control of use of sources, often insufficient effectiveness
- insufficient development and low-efficient support of small and medium enterprises and conditions for employment – negative impact on development of the society
- accession of the Government of the Slovak Republic and economic sectors in the period 1999-2000 to a fundamental restructuring and recovery of enterprise sector and banking sector, privatisation of large state enterprises, basic recovery measures

## **20. Development in the sector of agriculture and its adverse aspects**

- unfavourable economic development of agriculture – overall reduction of production and employment, low level of restructuring and insufficient technologies (conserving the obsolete organisational forms, low labour productivity, weak competitiveness with developed countries) – insufficient use of agricultural and food-processing potential and conditions for food independence in majority of agri-food processing products

- long-term decrease of area of agricultural land to the low limit of food safety, increasing areas with long-term or permanent loss of productive ability (built-up areas, urbanised areas), unused parts of soils (economic problems of agricultural sector)
- insufficient support of development of alternative (organic, ecological) agriculture and integrated rural development
- slow and unsolved process of renewal of proprietary relationships to soil and property – land consolidation, restitution
- unfavourable economic development of forestry – decrease of GDP and employment, real converting the wood to money, lower quality of products, unfavourable development of production capital factor accompanied by low investment rate, only partially balanced by some improving indicators (increase of area, improvement of age structure, positive development in wood stocks)
- unsatisfactory trends in water management – preferring large-capacity water resources distant from place of consumption, centralised management, deformation of prices (regulation of prices regardless real costs) – unclear transformation and transfer of competence on municipalities
- unbalance in access to water resources (insufficient connection of inhabitants in some areas to water supply network), exceeding ecological limits of usability of water resources in some areas, insufficient level of waste water treatment
- absence of a system of appraisal of non-productive functions of natural resources (in particular soil, forest and water) – deformations in economy of soil management, inadequate position of sectors in economy

## **21. Development in production sector (extraction of mineral resources and industry) and its adverse aspects**

- decrease of share of industry in creation of GDP and reduction of employment in industrial sectors, which is not accompanied by adequate transfer of production and labour power to modern sectors (in particular sectors of services and information technologies)
- unconceptual and incomplete restructuring of production causing decline of a number of enterprises (lack of funds for investment, payment insolvency, indebtedness of enterprises and often also incompetent management and robbery of property leading to liquidation of a number of enterprises and thousands unemployed)
- probability of further regressive changes of industry (unfavourable internal structure of industry, under-capitalisation of sectors, unqualified labour power, various group interests, non-existence of strategy of development of individual sectors)
- need to harmonise business conditions in the sector of extraction of mineral resources with practice in the European Union
- partially positive trends in industrial production – growth of labour productivity and overall growth of production in up-to-date sectors, partial decrease of production in traditional sectors demanding huge material inputs and causing load on the environment (in particular heavy industry)



## **22. Development in the tertiary sector (technical and transport infrastructure and tourism) and its adverse impacts**

- decrease of importance of public transport, preferring road passenger and freight transport, insufficient use of combined transport
- decline of railway transport – decrease of performance, lag of technical background, modernisation of railway tracks and infrastructure is not solved
- insufficient development and maintenance of transport infrastructure of the lower order (in particular in peripheral regions)
- lagging behind developed countries in the area of telecommunications despite their recent great development
- extraordinarily unfavourable development of tourism despite its great potential – ongoing decrease of incomes from active foreign tourism, growth of expenses for passive foreign tourism, ongoing decrease of share of this sector in creation of GDP
- insufficient background of small tourist facilities, unsatisfactory quality of services

## **23. Development in banking sector and its negative aspects**

- great development of banking and insurance sectors in 1990s with prevailing uncontrolled development – supremacy of adverse trends (non-transparent management, risk loans, insufficient support of entrepreneurs and development projects) leading to liquidation of a number of financial institutes
- starting of a process of restructuring and recovery of the banking sector (1999-2000)

## **24. Energy and resource consumption and low effectiveness of economy of the Slovak Republic**

- still existing high resource, energy and material consumption in economy (in particular in industrial sectors) despite partial and temporary decrease in energy consumption
- ineffective use of energy – large share of energy demanding industry with obsolete technologies, large losses of energy in distribution network, wasting of energy due to non-market pricing policy (regulated prices)
- still existing geopolitical dependence of the Slovak Republic on supply of strategic resources (oil, natural gas, coal, uranium) from the Eastern European region

## **G. Environmental management**

### **25. Use of resources of renewable energy and issue of nuclear energy**

- preferring use of non-renewable energy resources, mainly nuclear energy, due to the fact that at present there is still no economically reasonable and competitive substitute based on renewable resources, which could fulfil the role of basic energy supply for economy

- at present unsolved issues of definitive handling of burnt nuclear fuel and high-radioactive wastes; the Government of the Slovak Republic inclines to a solution based on depositing of these wastes in underground deposit in the Slovak Republic. As far as phase-out of nuclear power plants is concerned (Resolution of the Government 801/1999), years 2006 (block 1) and 2008 (block 2) have been set as a realistic date for phase out of the blocks V-1 in the nuclear power plant Jaslovské Bohunice
- in relation with the Energy Conception of the Slovak Republic (Resolution of the Government 5/2000) and with the issue of the nuclear power plant Mochovce (Resolution of the Government 257/2000) the Government does not agree with provision of state guarantees in any form for construction and operation of the blocks 3 and 4 of the nuclear power plant Mochovce
- insufficient use of renewable energy resources (in particular geothermal energy, solar energy, biomass) despite their relatively large potential
- improper structure of utilisation of hydroenergy potential – preferring large water dams, very low share of small hydropower plants with output up to 1 MW

## **26. Still existing environmental load and indebtedness**

- partial improvement of quality of majority of components of the environment in 1990s mainly through application of the law, creation of state administration for the environment, decline in agriculture, decrease of industrial production and modernisation of production (in particular via introduction of new technologies, change of fuel base, economic tools) – improvement of situation in immission load of the territory, consumption of substances depleting the ozone layer, load of soil and forest, etc.
- still existing regional air pollution, accompanying degradation of the environment (acidification) and adverse health impacts on population of the threatened areas of the Slovak Republic
- still existing adverse quality of surface water and groundwater caused by insufficient treatment of industrial and municipal waste water and large-area pollution (agriculture, urbanisation)
- still existing destruction of soil as a consequence of water and wind erosion of soil, compacting of soil and other adverse trends in physical properties of soil (soil acidification, reduction of humus stock and content of nutrients)
- still existing contamination of soil as a consequence of industrial production and immission load (soil acidification, contamination by toxic substances)
- still existing threat to gene pool and ecological stability of landscape – weakening of population of fauna and flora, reduction of biodiversity mainly in urbanised and agricultural areas, spreading of synanthropic and invasive species of biota
- still existing immission load and other adverse factors of health state of forest vegetation (defoliation, diseases, pests, natural adverse factors) as a consequence of human economic activity, including improper character of forest management, however improvement of a number of indicators
- still existing problems in waste management – insufficient processing and further utilisation of wastes, low share of separated waste collection, need for long-term

and permanent solution of storage of high-radioactive nuclear waste, increase in production of municipal waste

- insufficient solution of problems connected to so called old environmental loads (lack of financial sources) – in particular devastated territories in mining areas, extraction of mineral resources and accompanying activities (mainly storage of material)
- still existing risk of food contamination, increasing risk of environmental mutagenesis and potential risks of genetically modified food

## **27. Adverse consequences of global climate change and depletion of the ozone layer**

- changes in climatic parameters – expected increase of temperatures, adverse changes in rainfall regime, sharpening of periods of drought, decrease of soil humidity
- changes in hydrological parameters – flow rate of water streams, decrease of groundwater stocks, increase of both flood and drought hazards
- exceeding critical concentrations of ground-level ozone for agricultural plants and forest eco-systems
- decrease of stratospheric ozone with accompanying negative impacts in particular on human health and other organisms

## **28. Different quality of the environment in regions of Slovakia**

- high biodiversity of the Slovak territory within the European context – relatively well preserved natural and cultural heritage as a proper basis for protection and improvement of quality of the territory
- still existing pollution, degradation of the environment and load to inhabitants in so called threatened areas of Slovakia with low quality of the environment (despite clear improvement of majority of indicators)
- increasing health risks for inhabitants of cities and towns located near the main transport lines (noise, higher occurrence of accidents)
- overall low quality of the environment in larger cities as a consequence of influence of a complex of adverse factors
- insufficient level of infrastructure of municipalities (in particular water supply and sewerage systems) in some areas (in particular the eastern and northern Slovakia) and related health risks
- health risks connected to long-term influence of hazardous and special wastes – in particular at waste landfills, heaps and sedimentation basins in urbanised areas
- insufficient respect for so called geo-barriers as potentially limiting factors of development (e.g. natural radioactivity of the environment and its impact on health of inhabitants, increasing risk of natural disasters)
- positive role of territorial planning as a tool for increasing environmental and ecological quality of landscape, determination of regulators of territorial development, forming of system of ecological stability, elimination of negative factors.

### **3.8.2 Analysis of strengths and weaknesses, opportunities and threats (SWOT analysis) of the current state of the society in relation to sustainable development**

The mentioned strengths and opportunities as well as weaknesses and threats constitute an overall assessment of the starting situation of sustainable development of the Slovak Republic determined by detailed analyses carried out in the framework of the National Strategy of Sustainable Development. Contradiction of several statements (what seems to be a strength or opportunity, can be from a different angle seen as a weakness or risk) shows that the concept of sustainable development is really very complex issue.

**Strengths and opportunities** supporting sustainable development are in particular:

- development of a modern parliamentary democracy, relating reform of institutions and amendment to legal instruments (acts, strategic and conceptional documents, Constitution of the Slovak Republic)
- starting a process of basic reforms of the society – in particular the reform of public administration, reform of education, social reform
- gradual “top-down” transfer of competence – from the state to self-governments, closer to citizens
- development of the third sector (in particular non-governmental organisations) – creation and development of many interest organisations, associations, networks established by citizens, business sector and municipalities
- gradual change of collective thinking and negotiations (typical for socialist era) to individual – concrete knowledge and abilities of citizens have still greater importance
- building a market economy – overall liberalisation of economic conditions accompanied by a large privatisation of the national property together with development of private business (at present the private sector creates more than 80 percent of GDP)
- relatively satisfactory development in the area of inflation and monetary policy – after a sharp fall of real incomes of inhabitants in the period 1990-1993 stabilisation occurred, although in the period 1999-2000 real incomes fell again when compared to the 1998 situation
- prevailing positive development of quality of natural resources and landscape – improvements in quality of air, groundwater, reduction of load caused by exploitation of natural resources, agriculture and forestry
- the EU pre-accession process of the Slovak Republic and relating changes in particular in institutional area
- invitation and access of the Slovak Republic to OECD which confirms improving international position of the Slovak Republic and which should lead to positive development of economy and society

**Weaknesses and threats** endangering sustainable development in the Slovak Republic are in particular:

- unfavourable situation in the society – low level of moral and legal awareness (still existing deformations from the totalitarian era), prevailing adverse value orientations in the society – expanding consumer way of life and preferring material values against spiritual values
- unpreparedness of a large part of citizens to fundamental changes – increased level of uncertainty accompanied by increased requirements to share responsibility for the own fate and for development of the whole society is perceived by a large part of inhabitants negatively in a context of growing poverty
- insufficient transparency of decision-making in the public administration, still existing corruption and clientism
- still existing perception of the public administration as a tool of power and not as a service to citizens
- still existing sectoral approach and short-term planning of development without respecting the long-term, permanent priorities of the society
- overall slowness and low efficiency of reforms which at this moment are not perceived positively by citizens or by the society as a whole (sceptical or even negative attitude to development and achievements of previous decade prevails)
- deterioration of quality of life of some groups of citizens – in particular families with small children, the long-term unemployed, incomplete families, the retired
- overall low-efficient and improperly structured economy, typical for industrial society
- insufficient emphasis on modernisation of industry (prioritising traditional branches of industry – metallurgy, nuclear energy, machinery, chemical industry, etc.)
- attempts to save ineffective large enterprises, preserve traditional agriculture, prioritising banking and financial sectors
- insufficient funds for financing and development of other “non-productive” sectors (social sector, culture, education and science, health service, environment)
- insufficient representation of perspective sectors based on modern technologies and effective use of labour forces and sources, insufficient emphasis on development of structures of information society
- high energy consumption of economy and low level of utilisation of renewable energy resources
- still existing pollution of groundwater, contamination of soil and substratum, bad health state of forests

The challenge of sustainable development in the Slovak Republic from the point of view of historical and cultural context is to seek and find disrupted traditions and continuity of the historical development, to renew settlement identity, to develop harmonious relationships of an individual and the society with the environment, to connect through progressive technologies to traditional forms of management which ensure conservation of values of the cultural and natural environment.

In the social area the challenge of sustainable development is better quality of life of the society, in the framework of which reasonable conditions for meeting the

development needs of each citizen should be created not only for the present, but also for the future generations.

It is apparent that in the globalising world it is not possible to maintain the Slovak economy working on principles, which are different from principles of the developed world economy. The greatest challenge for Slovakia is therefor to adequately react to the modernisation trends and to gradually create a progressive sustainable economy.

The starting situation of sustainable development in the Slovak Republic is from environmental point of view contradictory and worrying, taking into account occurrence of some positive trends accompanied by existence of some negative phenomena and trends (they however mostly exceeds the environmental dimension and relate to more or less the overall state of the society and economy).

Current development is complicated, complex and ambiguous. Real successful achievements in political, social and economic transformation in 1990s are accompanied by many mistakes and shortages, which prevail in several areas. After ten years of attempts to introduce new reforms, change its reputation, improve prosperity, seek new forms of management and communication of all actors at international, national, regional and local levels, it is apparent that a **comprehensive strategic vision of development of the society at the governmental level is missing**. The National Strategy of Sustainable Development should constitute a document of such a character.

- **Elaboration and adoption of the National Strategy of Sustainable Development offers a possibility to really revive the social and human potential of the Slovak Republic, address and involve all major groups of the society into preparation of a new development direction and creation of a new institutional framework for a healthy, socially developed, educated and prosperous civic society.**

## **4. IDEA OF SUSTAINABLE DEVELOPMENT OF THE SLOVAK REPUBLIC AND DEVELOPMENT OPPORTUNITIES**

**A central motive of sustainable development idea in the Slovak Republic is a change of Slovakia to a country based and managed on the principles and criteria of sustainable development and their conscious application.** The vision assumes implementation of an overall change of the society, rules of functioning of the economy and in particular conscious application of these democratically adopted rules. Condition for achieving the vision is perception of sustainable development as a comprehensive cross-sectoral issue relating to the whole society, which is based on active participation of all major groups of the society. Overall social and cultural development of the man and the society in harmonious relationship with the nature and the environment is the priority of development.

The idea is based on a condition that Slovakia has an ambition to preserve the nature with its diversity and self-regulatory abilities, to bequeath the future generation sufficient quantity of carefully utilised natural resources and the quality environment. At the same time it assumes direction towards working, nature-friendly economy based on principles of effective use and fair distribution of resources and towards healthy, meaningfully working society, enabling to meet social, spiritual and cultural needs. An important condition for achieving the vision of sustainable development are institutions and legal acts, which serve an individual and the whole society in increasing quality of life, including the right for quality environment and comprehensive development of human resources. In the framework of internal regional and local development it is necessary to balance inter-regional disparities and to use regions in accordance with their potentials, principles and criteria of sustainable development. Local Agendas 21 will be worked out and implemented at local level. In the area of interpersonal relationships Slovakia will become a country positively affecting international direction towards sustainability and will accept its share of responsibility for international events to the effect of a slogan: "Think globally, act locally!"

The idea assumes fundamental changes of production and consumption patterns towards the eco-effective sophisticated productions, consuming less energy and resources, saving the environment and requiring less transport and increasing effectiveness of use of resources. At the same time it assumes an increase of rationalism and awareness of consumer behaviour in the sense of voluntary self-regulation and immunity to excessive consumption so that this change brings profit to the nature, society and consumer as well. Direction towards sustainable development means addressing the producers (influencing the business conditions) and the consumers of goods and services, in particular in the area of housing, nutrition, transport and spending the leisure time.

The value orientations of population should change gradually, patterns of sustainable production and consumption should be preferred and the consumer way of life should be economically and morally disadvantaged. Indicators of state of the environment (load and threat to the landscape) would improve as a consequence of application of a new philosophy of economic and social development of the society.

Achieving the idea of sustainable development is not possible without substantive changes in the economic area – economy should be de-centralised, diversified,

sophisticated and transformed to scales, which are adjusted to human needs. Sectoral policies will be revised in the light of strategic objectives and recommendations of the National Strategy of Sustainable Development, the comprehensive conception of economic, social and environmental development of the Slovak Republic will be consequently determined by the principles of sustainable development – further development of sectors will be based on these principles and will be subjected to a common objective. Implementing conditions for application of quality legal acts and development documents in practice will be significantly improved. Sufficient funds will be earmarked for areas ensuring development of human resources (health service, education, science and research, culture) and protection of the environment.

Quality and involvement of staff in the state administration, self-governments and other areas of life of the society will be improved. Their work will be operative, qualified and competent and they will behave independently in decision-making. Impacts of corruption will be eliminated and legal awareness of citizens and the whole society will be considerably improved.

**Successfulness of achievement of the idea of sustainable development in the Slovak Republic requires a fundamental social change.** The society, its major groups and also individual citizens have to change their current behaviour, attitudes, value orientations, ways of solution of problems and achievement of objectives in order to comply with principles and criteria of sustainable development. It should be an objective-oriented process of changes, through which the highest and sustainable quality of life could be achieved.

To carry out this fundamental change, it is necessary in the Slovak Republic as a starting pre-condition to carry out transition of the society towards the following attributes:

#### **Highly developed civic society**

- an open society of citizens with developed legal awareness, developed mechanisms hampering the abuse of political and economic power
- a society, where each citizens takes over a part of responsibility for its qualitative development, oriented to improvement of quality of life (achievement of a healthy, socially and demographically balanced society)
- a society with a great emphasis put on development of human capital (expertise, development of science, cultural, spiritual and intellectual life), development and better use of human abilities on the basis of conviction that the human creativity is practically a limitless resource
- a society with aim-consciously supported and developing national and regional identity
- a society, where mutual trust and partner relationships are promoted among major groups, where not only freedom and equality but inter-generational and intra-generational solidarity as well are respected
- a society, which supports principles of social solidarity and subsidiarity, helps families to deal with events and situations recognised by the state, which exceeds the limits of average, in the form of state social support, guarantees assistance and protection in the form of social aid in order to alleviate material and social need



- a society, which hampers and prevents all forms of discrimination, social exclusion and poverty
- a society, which ensures protection of rights and interests protected by the law, humanisation of social relationships and deepening of social dimension of sustainable development as a guarantee of free self-determination and self-realisation of citizens

#### **Society of education** (learning society)

- a society, where each citizen has an equal access to education and equal chance to achieve success
- a society, where education together with knowledge and skills, scientific and development expertise are considered to be the most valuable capital for development and therefore the whole-life education and re-qualification are supported
- a society, where education, development of culture, science and research are supported and used for development at all levels and in all areas

#### **Information society**

- a society, which exceeded limits of industrialism, adapted to ongoing processes of civilisation transformation, exchange of obsolete technologies, re-organisation of economy into networks
- a society, where the role of state has decreased in favour of self-governments, non-governmental organisations and businesses
- a society open to the world which has integrated to networks of the world economy with growth of living standard, support of social protection of inhabitants and economic and social stabilisation.

#### **Society with environmental awareness**

- a society consequently respecting requirements that ensure long-term use of landscape and natural resources
- a society consequently applying precautionary and safety principles, monitoring occurrence of risk factors and reducing them to minimum
- a society, which eliminates exploitation and use of non-renewable natural resources and adjusts intensity of use of renewable natural resources to regeneration capacity of the nature
- a society, which devotes higher attention to conservation of biodiversity of fauna and flora species and communities, including conservation and strengthening of life-supporting, self-regulatory, self-purifying and self-supporting natural mechanisms
- a society, which applies an integrated planning and decision-making in all areas and which considers environmental education to be an important of not only curricula in schools but a whole-life education as well.

- ***Although achievement of the idea of sustainable development seems to be realistic only in the long-term horizon, it is necessary to stress that the current global problems, international position and objectives of the Slovak Republic do not provide Slovakia with different meaningful alternative than the gradual application of the sustainable development vision.***

Formulated idea of sustainable development (required scenario) is long-term and does not have an alternative (long-term development of the human society is not possible without achievement of sustainable development). It also concerns the issue of possibility of a number of variants of short-term and middle-term development of the society in relation to the idea of sustainable development. Assessment of the current development and the starting situation of the Slovak Republic determines formulation of two antagonistic development directions/scenarios – negative scenario (with prevailing negative phenomena and trends of development) and positive scenario (with prevailing positive phenomena and trends of development).

**Negative direction/scenario** can be perceived as a further development of the Slovak society, which would be based on prevailing current negative phenomena and trends, leading to risks and threats from the point of view of sustainable development. Application of this scenario would mean insufficient development of the civic society, further existence of problems relating to ineffective public administration, deepening of economic and social problems and disparities. Lag of economy would continue caused by inertial way of development, insufficient growth of efficiency, competitiveness, labour productivity, real salaries and living standard and growth of technological lag. A long-term vision and strategy of development of the society and economy would be missing. From the long-term point of view it would not be possible to reduce unemployment, regional differences would grow leading to insufficiently developed marginal regions. Sectors of education, health service, culture and the environment would suffer from lack of sources (including human sources) and under-appreciation of their importance. Development of adverse social phenomena would continue (serious criminal acts, corruption, drug addiction, xenophobia, racism and other socio-pathological phenomena). Economic imbalance, social and political tension would grow and there would be still higher number of social conflicts. Development of the environment would be ambiguous, depending on existence of a number of negative phenomena and trends. Legal awareness would stagnate or even decline.

*The future direction of Slovakia towards the described negative scenario would be unambiguously adverse. Integration ambitions and overall credibility of the Slovak Republic would be questioned, the society would remain in a value vacuum and chaos, moral principles of sustainable development would be ignored. Such a development would not create pre-conditions for long-term achievement of the sustainable development vision and therefor it can be defined as undesirable and unacceptable.*

**Positive direction/scenario** is understood as a probable development of the Slovak society in the case of enforcement of ongoing positive phenomena and trends. This scenario constitutes creation of reliable basis of a legal state, civic society, effective and competitive economy, quality educational system, health service and the environment as well as support of science and culture. Development of the society would be built mainly on positive value fundamentals and moral principles. The scenario assumes accession of the Slovak Republic to the European Union which would strengthen the international position and reputation and which would be an overall benefit for economy, increase of living standard of inhabitants and

strengthening the quality of legal system. The fundamental values applied in the society include, e.g., assurance of a lasting peace, a unified approach and common solution of problems, equality among citizens and member states, guaranteeing the basic rights, principles of solidarity and subsidiarity, ensuring the basic economic, social and environmental needs of citizens. The positive scenario as a whole creates proper conditions for a long-term transition to sustainable development.

On the other hand, this scenario can threaten some objectives of sustainable development in the Slovak Republic, namely in the economic area (overall unpreparedness of economy – a number of economic sectors can become uncompetitive after accession to the EU, high costs for restructuring of the Slovak economy can be expected, there is lack of qualified management personnel), social area (insufficient informedness and preparedness of citizens to change, linguistic and mental barriers, outflow of qualified labour forces abroad – can be accompanied by supply of labour forces from abroad to the Slovak Republic, orientation towards consumer patterns of behaviour, higher demands for material inputs, growing individualism and greater openness to socio-pathological phenomena), the environment (intensification and specialisation of agriculture can lead to loss of biodiversity, projects damaging the environment can be supported, etc.).

**Despite some negative arguments and relating risks it is necessary to state that the positive scenario creates a proper and required condition for transition to sustainable society.**

**The probable further middle-term development of the society of the Slovak Republic** is in the case of continuation of both current and previous phenomena and trends a combination of the both mentioned directions/scenarios – the simultaneous influence of both some positive and negative trends. In order to achieve the long-term idea of sustainable development of the society *it is important to regulate development with an attempt to minimise the negative trends and to support the positive trends.*

The largest realistic possibilities of the future positive development of the society are connected to the EU pre-accession process of the Slovak Republic, within which many important institutional changes are being carried out, mainly in the form of adoption of a new modern legislation and building of democratic institutions. The most important development documents reflecting the expected accession of the Slovak Republic to the European Union and supporting also the future application of principles of sustainable development in practice should include in particular *Strategy of the State Environmental Policy, Conception of De-centralisation of Public Administration, Integrated Plan of Regional and Social Development of the Slovak Republic for implementation of the PHARE 2000 Programme, part 1 – National Development Strategy, Plan of Rural Development of the Slovak Republic for implementation of SAPARD Programme, National Plan of Regional Development and Conception of Territorial Development of Slovakia 2001.* A number of sectoral development documents mainly in recent period have included direction towards sustainable development among their objectives and priorities. A question is, to what extent these documents meet this proclaimed objective. The National Strategy of Sustainable Development should constitute after approval a cross-sectoral document of development of the society, integrating the objective of the above mentioned documents.

The largest threats to positive development of the society are connected to persisting negative phenomena in the area of practical operation of institutions, application of legal tools and behaviour of not only public representatives but citizens as well. They are manifested in current low legal awareness and violation of laws, declarative

character of adopted documents and absence of control. In this relation it is apparent that without change in functioning of the society towards consequent compliance with legal acts, implementation and control of application of the documents, both the positive scenario and the long-term vision of sustainable development are threatened.

## 5. NATIONAL STRATEGY OF SUSTAINABLE DEVELOPMENT

### 5.1 ORIENTATION AND PRIORITIES OF SUSTAINABLE DEVELOPMENT OF THE SLOVAK REPUBLIC

The basic orientation of the Slovak Republic should be a long-term, aim-conscious and comprehensive direction to building a society, which is based on principles of sustainable development and its practical application. Achievement of this orientation requires in all areas of the society orientation towards these **long-term priorities** (integrated objectives) of sustainable development of the Slovak Republic:

- **Developed democratic country** – integration of the Slovak Republic into the decisive world political and economic structures; utilisation of positive trends of globalisation; taking over a share of responsibility for the global development of the world community, positive influence on international direction to sustainable development;
- **Modern state and system of public administration** – development of a political pluralistic system, establishment of relevant legal instruments, building modern institutions, quality and effective activities of the public administration (state, region, municipality) in favour of citizens;
- **Highly-developed civic society** – an overall change of value orientations, strengthening of legal awareness, historical and national awareness, achievement of high level of education and informedness of citizens and their participation in decision-making, meaningfully working components of the society (associations, family, citizen);
- **Social solidarity and social protection** – social policy leading to increase of personal participation and responsibility of citizens for themselves, acceptance of principles of social solidarity preventing social disadvantaging or exclusion and poverty; to support of stimulating measures of the state family policy and employment policy and protection of rights and interests of citizens protected by law and elimination of all forms of discrimination;
- **Balanced territorial development** – application of a comprehensive spatial and territorial planning, preferential development of lagging and marginal regions, application of an institute of inter-regional solidarity, integrated development of settlements, renewal and maintenance of historical structures, settlement identity and forms of settlements;
- **High quality of human and social resources** – gradual creation and support of healthy, demographically balanced society, assurance of increasing quality of life – social, economic, cultural and spiritual needs with emphasis on problematic groups of inhabitants, elimination of negative social and socio-pathological phenomena;
- **New model of economy** – achievement of a long-term working modern economy and information society, elimination of structural deformations of economy, balanced development of economy with emphasis on perspective modern sectors of economy and regional natural and social conditions;

- **High quality of the environment, protection and rational use of natural resources** – effective protection of the environment, efficient use of natural resources, removal of environmental loads and damages to the environment, limiting the economic development in accordance with natural conditions and potentials, achieving and maintaining quality environment with emphasis on endangered areas;
- **Assurance of life and safety for citizens, existence and functioning of the state** - assurance of safety the Slovak Republic, its sovereignty and integrity; maintenance and development of democratic bases of the state, its internal safety; protection of life and health of citizens, protection of peace and stability in the Central Europe; extending the democracy, safety and prosperity zone, including full membership of Slovakia in NATO and EU; achieving sustainable economic, social, environmental and cultural development of the society, together with protection of important infrastructure of the state and the environment;
- **Application of fundamental interests of the Slovak Republic** - maintenance of peace and stability in the world, elimination and effective solution of crises using peaceful means; good relationships with neighbours and development of all forms of mutually advantageous regional co-operation; internal stability based on corresponding agreement in the issues of fundamental and important interests of the Slovak Republic, conservation of social stability; achieving environmental safety within internal and international structures; achieving dynamic transition of the Slovak economy towards an ecologically more balanced, efficient and resource-diversified market economy capable to reasonably meet the needs of inhabitants.

## **5.2 STRATEGIC OBJECTIVES OF SUSTAINABLE DEVELOPMENT OF THE SLOVAK REPUBLIC**

**Strategic objectives of sustainable development**, which have to be achieved in the framework of direction towards the above mentioned long-term priorities, include:

1. Strengthening of international position and credibility of the Slovak Republic
2. Use of positive trends and elimination of risks of globalisation
3. Development of democracy, political pluralistic system, legal instruments and institutions
4. Improvement of function of the state, its main institutions and the public administration
5. Support of non-governmental organisations, interest associations and the public in participation in development of the society
6. Strengthening of legal awareness, change of value orientations of inhabitants, education and enlightenment
7. Development of culture, cultural, historical and national awareness
8. Building a modern and quality educational system, support of science and research
9. Achieving a balanced development of the settlement environment and integration of planning activities
10. Preferential development of problematic (peripheral, marginal) regions

11. Support of construction and maintenance of building stock and protection of historical structures in the landscape
12. Achieving favourable trends and balanced demographic structure
13. Improvement of health state of population and health care, improvement of lifestyle
14. Alleviation of social differences in the society, reduction of unemployment rate, completion of transformation of the system of social assurance and support of employment policy
15. Increase of support for socially endangered groups of inhabitants and family
16. Comprehensive solution of position of the Roma minority
17. Minimisation of occurrence of socio-pathological phenomena
18. Completion of an overall transformation of economy
19. Improvement of the main economic indicators
20. Development of an integrated model of soil management
21. Restructuring, modernisation and recovery of the production sector
22. Improvement of the transport and technical infrastructure, development of tourism
23. Restructuring and modernisation of the banking sector
24. Reduction of energy and resource consumption and increase of effectiveness of the Slovak economy
25. Reduction of share of use of non-renewable natural resources and rational use of renewable resources
26. Reduction of environmental load
27. Alleviation of consequences of the global climate change, depletion of the ozone layer and natural disasters
28. Improvement of quality of the environment in regions

### **5.3 WAYS AND TOOLS TO SUPPORT PRIORITIES AND ACHIEVEMENT OF STRATEGIC OBJECTIVES OF SUSTAINABLE DEVELOPMENT**

To achieve the strategic objectives of sustainable development of the Slovak Republic it is necessary:

#### **5.3.1 Strengthening of international position and credibility of the Slovak Republic**

- completion of process of integration into the European Union, full membership in the European Union
- integration in the western safety structures of NATO
- compliance with international commitments of the Slovak Republic in the area of sustainable development documents and international conventions

- initiation of projects supporting sustainable development, functioning in relevant international organisations (UN, EU, OECD, etc.) in favour of promotion of sustainable development in an international context
- participation in international activities in the area of disarmament and armament control, preventing conflicts and peace operations, besides other in the framework of NATO
- creation and maintenance of a stable and just international economic and social system
- mobilisation of resources to support “reliant” countries (the Slovak Foreign Aid – AID)
- transboundary co-operation of regions (e.g. through Euroregions), co-operation among partner cities and regions within international programmes and projects

### **5.3.2 Use of positive trends and elimination of risks of globalisation**

- change of thinking and value orientations of the Slovak society in the light of overcoming the industrialism and understanding the changing economic and social reality, alleviation of adaptation of the society to ongoing civilisation changes
- application of global long-term perspectives in political and decision-making processes – elaboration of a strategy of adaptation of the Slovak economy to conditions of the world economy
- change of rules of function of the Slovak economy in direction of its adaptation to creating principles of the global world economy
- increase of informedness of inhabitants and all groups of the society on opportunities and risks of globalisation
- application of possibilities of education and professional self-realisation as well as promotion of the Slovak products on the world markets
- minimisation of risks connected to the world globalisation process – support of national identity, protection of domestic products, stimulation of competitiveness with foreign producers, etc.
- minimisation of risks connected to cultural homogenisation, support of cultural identity at national and regional levels

### **5.3.3 Development of democracy, political pluralistic system, legal instruments and institutions**

- stabilisation of an effective institutional organisation, legal environment, working institutions, balanced competence of the state administration and self-governments, participation of all components of the society in public administration
- political stabilisation of the society, ensuring the function and quality of the constitutional bodies, improvement of execution of legislative power
- effectiveness, competence and transparency of function of the public administration and also economic sphere



- integrated approach in decision-making processes in all spheres of the society in accordance with requirements of sustainable development
- improvement of legislative process, complexity of decisions
- building a system of legal acts harmonised with the law of the European Union
- increasing the efficiency of legal acts and enforcement of the law
- control of implementation and compliance with adopted acts in practice
- increasing the effectiveness and transparency of financial flows accompanying provision, distribution and use of the pre-accession funds ISPA, SAPARD and PHARE
- use of strategic environmental assessment as a tool for elimination of negative environmental, social and economic impacts of development
- reflection of the National Strategy of Sustainable Development and principles of sustainable development to development and planning documents at all levels
- strengthening of competence and co-ordination of activity of advisory bodies of the Government, effectiveness of their activities and their influence on decision-making of the Government
- transformation of the Council of the Government for Sustainable Development to a cross-sectoral authoritative body, extension of competence of the Council of the Government for Science and Technology
- completion of the state and sectoral information systems and their network, providing citizens with access to information

#### **5.3.4 Improvement of function of the state, its main institutions and the public administration**

- implementation of the reform of public administration (Conception of Decentralisation and Modernisation of Public Administration)
- assurance of a complex system of control of public administration, its efficiency and effective function
- assurance of a stable internal environment – strengthening role of the police, re-building of the police system transforming it from repressive to preventive system
- independence of judiciary, substantial improvement of function of the judicial bodies (promptness, independence, transparency, anti-corruption measures)
- re-building the Army of the Slovak Republic to a stable guarantor of external safety of the Slovak Republic in the framework of the democratic Western European military structures
- strengthening of independence of churches from the state, church schools and system of church taxes
- equitable distribution of public resources, achievement and maintenance of high level of function of the societal system
- application of claims to quality and effectiveness of execution of the state administration, self-governments and control system
- improvement of level of co-ordination among sectors and other stakeholders in the society

- favourable institutional conditions for judicial and administrative procedures, increasing responsibility and public control
- elimination of corruption and other socially dangerous forms of criminality in all areas and at all levels of the public administration, prosecution, judiciary and other components of the society
- completion of building and strengthening of inspection forces in all relevant areas of the society
- strengthening the regulatory and monitoring bodies in the area of state aid, public procurement, bonds, insurance companies, banks, capital markets, environment
- regulation, minimisation and removal of artificial disproportion, sources of instability, safety risks
- strengthening the professional expert background for execution of public administration and economic sphere, initiation of creation and support of development of research institutions
- co-operation among the scientific community, business sector and the third sector
- implementation of global long-term strategic programmes of development of the society in political and decision-making processes
- achievement of a balance in all areas of planning and decision-making activity, mutual support among individual dimensions of development in the light of principles of sustainability
- integrated management (sustainable development) of the society, harmonisation of environmental requirements with social and economic issues
- education of employees of the public administration in the area of sustainable development
- strengthening of competence and roles of public administration bodies in promotion of sustainable development
- inclusion of monitoring and evaluation of sustainable development indicators in programmes of the state statistical investigation
- creation of institutional and organisational conditions for support of sustainable development at regional and local levels

### **5.3.5 Support of non-governmental organisations, interest associations and the public in participation in development of the society**

- strengthening of impact of the public on decision-making of state bodies and public administration
- creation of favourable institutional conditions and strengthening of position and financial situation of the third sector – non-governmental organisations and interest associations
- improvement of access of the public to legislative documents, policies, conceptions, plans and programmes, creation of conditions for efficient application of the act on free access to information

- increase of role of private-public partnerships in development and management of the society
- legal and organisational assurance of participation of citizens in planning and decision-making
- strengthening the institute of direct, self-governing and participatory democracy and civic society
- increase of involvement of citizens in public affairs (local and regional identity), supporting responsible and naturally motivated behaviour and acting, improving the interpersonal relationships, solidarity and respect among citizens
- common responsibility of individuals for public affairs

### **5.3.6 Strengthening of legal awareness, change of value orientations of inhabitants, education and enlightenment**

- increase of legal awareness (conscious and voluntary compliance with judicial code and acts) and moral of citizens of the state (compliance with moral principles)
- spiritual re-creation of civic and Christian moral
- support of environmental education
- preferring consumption based on conscious modesty and reasonable sufficiency, on regulation and savings of inputs (material, energy, goods, etc.), elimination of consumer patterns of behaviour
- stabilisation of institutional conditions for education and enlightenment as a basic tool for increase of quality of human potential and strengthening of social, cultural, national, environmental and legal awareness
- national education on human rights, protection and enforcement of economic, social and cultural rights
- increasing informedness of citizens on the issue of sustainable development, education and promotion of assurance of sustainable development

### **5.3.7 Development of culture, cultural, historical and national awareness**

- building a sound patriotism and national identity on the basis of the own history and culture, humanism and building national awareness
- support of natural regional and local connections, creation of a sound local patriotism
- linking to positive cultural traditions, support and development of local and regional culture and enlightenment
- use of cultural facilities and renewal of activities in associations and clubs, folklore traditions, local cultural, sporting and other events
- strengthening of importance of protection of cultural heritage in the society
- application of principle of cultural and social identity
- integrating the issue of cultural heritage and historical structures of the environment in curricula, deepening relations to the environment

### **5.3.8 Building a modern and quality educational system, support of science and research**

- carrying out a fundamental reform of the educational system, recovery and rationalism of science and research
- deepening of democracy and humanisation of education, increasing the educational level
- development of educational opportunities and equal access to education
- changes in management, structure and economic support of educational system and changes in the content of education
- inclusion of the key development themes in education (human rights, combating corruption, European dimension)
- improvement and extension of teaching of foreign languages
- achievement of high quality and proportionality of educational process
- extension of the number of multidisciplinary and interdisciplinary courses
- connecting education to practice and upbringing to creativity, increase of share of practical activities and skills
- sufficient amount of quality schoolbooks in all areas
- education of teachers in priority areas – education in social areas, environmental education, European dimension
- application of curricular and extracurricular upbringing to sustainable life as a part of the educational system
- completion of a complex curricular and extracurricular system of environmental and ethical education at higher qualitative level
- creation of conditions for lifetime education
- increase of quality of university education – orientation to quality, creativity, efficiency and responsibility of graduates in the interest of competitiveness
- closer co-operation of schools and scientific and research institutions
- support of science and research, achievement of level comparable to developed European countries
- support programmes for creation of new organisational structures of research, development and services in business and non-profit sectors
- assurance of preferential conditions for use of modern information and telecommunication technologies at all educational institutions
- assurance of education of inhabitants in the area of information technologies

### **5.3.9 Achieving sustainable development of settlements and regions**

- application of territorial planning and building code as a basic tool of the state environmental policy, optimisation of spatial organisation and functional use of landscape and assurance of sustainable development

- assurance of a modern regional policy and regional development of the Slovak Republic
- conservation of settlement diversity of the Slovak Republic – revitalisation and revival of rural areas, qualitative development of urban settlements (improvement of housing and services, rational use of land, improvement of esthetical aspects, stabilisation of urban population)
- renewal of social capital in settlements and regions, strengthening of social cohesion
- protection and renewal of local and regional identity
- support of migration trends ensuring qualitative development of urban and rural areas
- use of local and regional potential for development of labour market, improvement of quality of housing, services, development of recreation and tourism
- support of positive elements of rural way of life – skilfulness, consumer modesty, ability to combine various sources of income, neighbourhood co-operation, certain level of social control, etc.
- de-centralisation of management and decision-making on principles of subsidiarity, including strengthening of institute of local and regional referenda with use of local and regional sources and decision-making on local issues
- achievement of independence of local and regional budgets – greater participation in taxes and reduction of subsidies
- support of greater independence and lower vulnerability of regional and local economies, development of tools of local and community economy

#### **5.3.10 Preferential development of problematic (peripheral, marginal) regions**

- alleviation of unfavourable regional differences through proper demographic, social and economic policies
- preferring housing and work in rural areas and in lagging regions, support of development of settlements, transport and technical infrastructure in marginal regions
- application of development programmes of sustainable management in lagging regions
- compensation of disadvantages of lagging regions through an institute of inter-regional solidarity

#### **5.3.11 Support of construction and maintenance of building stock and protection of historical structures in landscape**

- improvement of situation in housing through application of a complex housing policy
- improvement of a flat stock and infrastructure, in particular in lagging areas

- integrated protection of a cultural landscape, monuments, saving and optimisation of use of cultural heritage in the framework of development plans of cities, regions and sectors
- renewal of local and regional identity in building
- associating multi-sectoral and multi-source financial means for evaluation and protection of building stock and building the infrastructure
- use of concept of protection of historical environment in protection of monuments – support of continuity of historical development
- regeneration and revitalisation of cultural heritage, improvement of protection of monuments on the basis of the new act on protection of monuments
- renaissance of craft activities and traditional skills in landscape management and harmonious development of settlements

#### **5.3.12 Achieving favourable trends and balanced demographic structure**

- inclusion of solution of population problems into the process of planning and decision-making – elaboration of priorities of population policy
- elaboration and effective application of programmes of planned parenthood – halting the fall of natural increase of population, improvement of age structure
- increase of average life expectancy, in particular as far as men are concerned

#### **5.3.13 Improvement of health state of population and health care, improvement of lifestyle**

- support of a system of health care based on primary prevention, protection and support of human health – elaboration of a comprehensive health care policy
- preventive health care and health education – increasing the responsibility of inhabitants for their health, including increased financial participation
- improvement of nutrition style of inhabitants, support of a healthy lifestyle
- improvement of indicators of physical and mental state of health, reduction of infant and child mortality, growth of life expectancy, in particular as far as men are concerned
- balanced distribution of funds and availability of health care for all citizens
- improvement of co-ordination among the health care sector, social care and other sectors at all levels of state administration and self-governments

#### **5.3.14 Alleviation of social differences in the society, reduction of unemployment rate, completion of transformation of the system of social assurance and support of employment policy**

- elaboration of Conception of Transformation of Social Care of the Slovak Republic, support of a policy of comprehensive development of human resources
- elaboration of programmes of proper and sustainable management and social development, mobilisation of internal resources to eliminate and alleviate poverty

- reduction of social differences in the society through aim-conscious strengthening of position and importance of middle-class in the society and through motivating support of the socially weak groups
- respecting human rights, provision of equal access to job and education, elimination of discrimination
- reduction of unemployment through an active labour market policy, support of creation of job opportunities, spatial and professional mobility, implementation of development programmes, change of structure of economy
- creation of motivating conditions for employment in the area of amount of unemployment support and amount of social care contributions
- strengthening of regional policy, use of local resources for creation of work opportunities
- completion of building of a sub-system of the state social support, transforming the current child contributions and parental contribution so that they have attributes of the state social care support and their institutional assurance through one subject (bodies of local state administration)
- creation of optimal conditions for self-reproduction of the society, stability of marital and parental relationships and implementation of measures respecting principle of a free choice of a parent for parental or professional role
- improvement and extension of execution of socio-legal protection, social prevention and substitute education, removal and elimination of all forms of discrimination, xenophobia, racism and other forms of intolerance, consequent compliance with protection of rights and protected interests

### **5.3.15 Increase of support for socially endangered groups of inhabitants and family**

- preferential orientation to preventing and avoiding social disadvantaging and exclusion and orientation of social strategy and policy to endangered groups of citizens (Roma minority, the elderly, youth, family, etc.)
- creation of conditions for standard development of a family as a basic precondition of sustainable development of the society
- equal conditions for employment of men and women and for access to the labour market for disadvantaged groups of citizens
- increase of share of women in decision-making process and policy, planning, advisory services and specialised services
- improvement of quality of life of the elderly
- support of quality education of young people, active support of their inclusion into the society and working process
- creation of conditions for equal opportunities and full participation in life of the society for the handicapped
- creation of conditions for avoiding social and material need of citizens and for application of rights and interests protected by the law (with emphasis on children and youth)

### **5.3.16 Comprehensive solution of position of the Roma minority**

- education of the society to ethnical tolerance
- support of a comprehensive solution of the Roma issue – improvement of housing quality, application of progressive methods in the area of education, increase of quality of life
- active inclusion of the Roma minority into solution of their problems in decision-making and implementing processes, utilisation of traditional culture for support of positive ethnical awareness of the Roma community
- building a network of qualified social workers and teachers of specialised for the Roma issues, support of co-operating organisations
- creation of a complex programme of education of the Roma minority, programme of use of leisure time for the Roma children
- improvement of informedness on situation of the Roma minority (qualified data on health state, demographic behaviour, lifestyle, etc.)

### **5.3.17 Minimisation of occurrence of socio-pathological phenomena**

- adoption of measures for efficient combat with criminality and organised crimes
- creation of social programmes and programmes for prevention of occurrence of socio-pathological phenomena
- creation of better conditions for work in social services and programmes of social aid
- initiation of campaign oriented to elimination of ignorance and tolerance to socio-pathological phenomena
- intensifying the implementation of measures combating drugs, home violence, torturing and abusing children and other negative social phenomena
- preventing, minimising and eliminating all forms of discrimination, racial intolerance and other forms of intolerance

### **5.3.18 Completion of an overall transformation of economy**

- elaboration of principles and criteria of a new economy serving to support a comprehensive development of human resources and replacing the industrial economy
- adjusting the economic policy of the Slovak Republic to gradual transition to the New Economy, support of trends of civilisation transformation – elaboration of economic strategy of sustainable development of the Slovak Republic
- carrying out structural change of economy of the Slovak Republic – support of proportionate development of all sub-structures towards de-centralisation, diversification and subsidiarity
- support of development of information society – elaboration of strategy of development of information society of the Slovak Republic, elaboration of strategic programmes of digital economy, electronic business and networking



- support of development of modern technologies
- reasonable de-monopolisation and de-centralisation of economy of the Slovak Republic, regulation of natural monopolies
- support of competitive market environment and restraint upon influence of domestic and foreign monopolistic economic and non-economic structures
- restraint upon re-distribution of financial resources through the state budget or restructuring of the debt, portfolio of enterprises, banks, financial and state institutions, limitation of providing state guarantees only for projects complying with principles of sustainable development
- application of economic, financial and tax tools supporting sustainable development (e.g. environmental tax reform)

### **5.3.19 Improvement of the main economic indicators**

- long-term reduction of inflation rate to the level which is close to the level of developed countries, stabilisation of monetary development, reduction of foreign indebtedness of economy of the Slovak Republic
- improvement of trade balance and change of its structure in favour of export of modern goods and services
- stable development of domestic product with a moderate tendency to growth, towards the level of the EU countries (60 percent by 2010)
- creation of conditions for attracting the foreign capital to economy of the Slovak Republic and increase of volume of foreign investment
- application of a fiscal policy of the state based on real incomes, reduction of fiscal deficit and reduction of debt of the state
- long-term reduction of unemployment rate to the level of developed countries

### **5.3.20 Development of an integrated model of soil management**

- restructuring of the soil management – use of production capacity of soils and resources of landscape while respecting the environmental conditions and limits on the basis of a comprehensive soil management policy
- reviving of agriculture and forestry – improvement of the main economic indicators
- strategic protection of food safety – protection of production potential of soils and genetic potential of cultural plants
- elaboration of a system of evaluation of non-productive functions of natural resources and its inclusion into the soil management policy
- completion of process of settlement of proprietary relations to soils and land consolidation
- elaboration and application of efficient measures to support alternative (organic, ecological) agriculture
- support of conservation of traditional forms of agriculture in rural areas as a condition of sustainable development

- long-term assurance of sufficient amount of water resources for inhabitants, elaboration of programmes of water management rationalisation
- application of sustainable water management – integrated management of river basins, diversification of water resources, de-centralisation of management

### **5.3.21 Restructuring, modernisation and recovery of the production sector**

- restructuring of economy of the Slovak Republic – fundamental restructuring of enterprise sphere, increasing effectiveness of bankruptcy processes, completion of process of privatisation of state enterprises
- creation of conditions for restructuring of industry and modernisation of its infrastructure, transfer of work opportunities to perspective sectors
- recovery and stabilisation of industrial production with orientation to perspective and modern sectors
- proportionate development of production with regard to value added, export and other key indicators
- diversification of import of mineral resources and reduction of relating geopolitical dependence
- support of small and medium businesses as basic pillars of healthy and working economy
- introduction of environmental management in enterprises, development and transfer of environmentally friendly technologies to reduce load to the environmental components
- minimisation of waste production, support of closed production cycles

### **5.3.22 Improvement of the transport and technical infrastructure, development of tourism**

- improvement of transport – advantaging public forms of transport against individual, support of urban public transport, building sub-urban integrated systems of transport
- strengthening of railway transport, reconstruction and upgrading of railway network
- support of railway and combined transport of goods (freight transport)
- completion of building of superior road network, improvement of accessibility of regions and marginal areas through building and maintaining the lower-level road network
- complex development of telecommunications and other technical infrastructures
- support of development of tourism – priority development of domestic tourism and creation of conditions for substantial growth of active foreign tourism
- support of domestic small and medium entrepreneurs in the area of tourism
- informatisation of the society, substantial improvement of access to modern technologies for citizens

### **5.3.23 Restructuring and modernisation of the banking sector**

- privatisation and recovery of banking institutions, overall stabilisation of banking sector
- orientation to providing loans to small and medium entrepreneurs

### **5.3.24 Reduction of energy and resource consumption and increase of effectiveness of the Slovak economy**

- systematic reduction of energy demand in the national economy of the Slovak Republic, approximation to the EU countries in indicator of consumption of energy for a GDP unit
- reduction of resource and energy consumption of economy of the Slovak Republic to the level of developed countries
- implementation of long-term change of production and consumption patterns in interest of reduction of energy and material flows and subsequent reduction of waste amounts
- application of economic tools in the area of the environment – solution of environmental debt, pollution charges, support of ecological literacy and eco-design
- introduction of environmental tax reform – creation of economic environment respecting and stimulating protection of the environment, natural resources and modest consumer behaviour
- stimulation of reasonably sufficient consumption of resources and goods, minimisation of energy and resource demand of production
- support of growth of effectiveness of resource utilisation and orientation to closed production and consumption cycles
- support of local economy, introduction of alternative economic indicators, environmental and social audit
- introduction of a system of internalisation of externalities in prices of products, services and production – to include environmental and social costs in product prices
- ensuring gradual removal of environmental and other internal debts from the past
- support of nature-friendly approaches in utilisation of natural resources as a substitute for utilisation of nature-unfriendly technocratic and large-scale production ways of management

### **5.3.25 Reduction of share of use of non-renewable natural resources and rational use of renewable resources**

- ensuring environmentally sound long-term use of natural resources (to achieve maintenance or regeneration of natural resources)
- harmonisation of use of non-renewable mineral resources with natural conditions and potentials of the Slovak territory and wider international relations – to carry out a new mineral resources policy of the Slovak Republic

- gradual damping of use of non-renewable sources of energy and mineral resources, reduction of resource and energy inputs and losses, rational use of all kinds of energy
- perspective damping of development of nuclear energy, gradual building of alternative energy sources
- ensuring a substantial increase of use of renewable sources of energy – in particular geothermal and solar energy
- improvement of structure of utilisation of hydropower potential through increase of share of small hydropower plants with output up to 1 MW
- introduction of efficient legal instruments and creation of proper economic conditions for production of energy from renewable sources, development of support technologies
- ensuring environmentally sound use of water resources and water management adjustments – integrated river basin management in relation with agricultural and forestry measures, rational use of sources in accordance with requirements of nature and landscape protection

### **5.3.26 Reduction of pollution and damaging of the environment**

- ensuring environmentally friendly use of substratum and relief of the Slovak territory, taking into account potentials and real hazards and risks, re-cultivation of affected areas (liquidation of old environmental loads)
- improvement of air quality (reduction of emissions of pollutants)
- long-term improvement of quality of water resources, creation of conditions for an overall revitalisation of the most polluted water streams
- reduction of pollution of groundwater resources – increase of productivity of soils while preserving environmental criteria, reducing load to soil caused by xenobiotics (soil decontamination, re-cultivation, special system of management)
- reduction of physical damage to soil (in particular the water and wind erosion) – to work out and to implement a system of soil protection against impacts of water and wind erosion
- environmentally sound use of forest resources and long-term improvement of their quality (reduction of immission loads, elimination of influence of damaging factors) on the principle of sustainable forest management and use of non-productive functions
- strengthening of supervision over management in forests and increase of level of management and protection
- minimisation of waste production and environmentally sound waste management, recycling of wastes, secondary utilisation, minimisation of special and hazardous waste production
- minimisation of occurrence of environmental risk factors threatening human health (radioactive radiation, noise and vibrations, risk substances in food chain, environmental mutagenesis, genetic manipulations, natural disasters, accidents)

### **5.3.27 Alleviation of consequences of the global climate change, depletion of the ozone layer and natural disasters**

- permanent monitoring and evaluation of the main macroclimatic and hydrological parameters in relation to global climate change
- projection of expected results of global climate change and their hydrological consequences to sectoral policies (in particular water management, agriculture and forestry, but also other sectors and social area), practical application of measures to eliminate negative impacts
- creation of an integrated system of prevention and liquidation of consequences of natural disasters

### **5.3.28 Improvement of quality of the environment in regions**

- use of landscape in accordance with its natural conditions (potentials) while strictly respecting its limits, application of regulators of territorial development and ensuring protection of its important values
- conservation of biodiversity of nature and landscape, preferential long-term protection of valuable sites, their eco-systems and species protection “in situ”
- building a network of protected sites, increasing quality of urban and rural landscapes with emphasis on revitalisation of endangered areas
- conservation of landscape diversity in accordance with natural, cultural and social conditions of settlement
- assessment of exposition of inhabitants in environmentally sensitive areas and larger settlements in order to lay down priorities of remedial measures at all levels
- evaluation of relationship between health state of inhabitants of the Slovak Republic and negative factors of the environment, improvement of conditions for healthy life of inhabitants
- practical application of protection of nature and landscape through regional state administration and self-governments (via application of a comprehensive environmental policy, environmental action programmes, local Agenda 21).

## **6. RESOLUTION OF THE GOVERNMENT OF THE SLOVAK REPUBLIC No. 978/2001**

NO. 978 OF 10 OCTOBER 2001 ON A DRAFT NATIONAL STRATEGY OF SUSTAINABLE DEVELOPMENT

Document No. 6580/2001

Submitted by: Pál Csáky, the Vice-Prime Minister and the Chair of the Government Council for Sustainable Development

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### ***The Government***

#### **A. approves**

A.1 a draft National Strategy of Sustainable Development (NSSD) with comments adopted at the meeting of the Government

#### **B. entrusts**

**the Prime Minister**

B.1 with submitting the NSSD to the National Council of the Slovak Republic,

**the Vice-Prime Minister Pál Csáky**

B.2 with justifying the NSSD at the National Council of the Slovak Republic

#### **C. assigns**

**the Vice-Prime Minister Ivan Mikloš**

C.1 to apply goals, priorities and objectives of the NSSD in the economic development concepts of the Slovak Republic, especially in the New Economy Strategy of the Slovak Republic

2004

### **the Minister of Economy**

- C.2 to work out goals, priorities and objectives of the NSSD within the framework of amendment to the Common concept of the forestry and wood-processing policy of production, processing and use of timber

2004

- C.3 to work out goals, priorities and objectives of the NSSD within the framework of amendment to elaboration of the Industrial policy of the Slovak Republic in selected sectors of processing industry

2004

- C.4 to work out goals, priorities and objectives of the NSSD within the framework of amendment to the Industrial policy

2005

- C.5 to work out goals, priorities and objectives of the NSSD within the framework of amendment to the energy policy of the Slovak Republic and raw-mineral policy of the Slovak Republic

2005

- C.6 to work out goals, priorities and objectives of the NSSD within the framework of amendment to the National programme of tourism development

2005

### **the Minister of Soil Management**

- C.7 to work out a draft new Act on forests in accordance with the NSSD

2002

- C.8 to work out a draft new Hunting Act in accordance with the NSSD

2002

- C.9 to work out a draft amendment to the Act on protection of agricultural land in accordance with the NSSD

2003

- C.10 to work out goals, priorities and objectives of the NSSD in accordance with the system and tools of structural policy in accordance with the EU system

2004

- C.11 to incorporate goals, priorities and objectives of the NSSD, which have not been reflected in the approved Concept of agrarian and agricultural policy, in amendment to it

2004

- C.12 to incorporate goals, priorities and objectives of the NSSD, which have not been reflected in the approved Concept of water management policy, in amendment to it

2004

- C.13 to incorporate goals, priorities and objectives of the NSSD, which have not been reflected in the approved Concept of forestry policy, in amendment to it

2004

**the Minister of Labour, Social Affairs and Family**

- C.14 to work out goals, priorities and objectives of the NSSD within the framework of the National programme of social protection

2003



C.15 to work out goals, priorities and objectives of the NSSD within the framework of the National programme to combat poverty and social exclusion

2003

C.16 to work out a draft Act on socio-legal protection, social prevention and substitutive care in accordance with the NSSD

2003

C.17 to work out goals, priorities and objectives of the NSSD within the framework of amendment to the National plan for employment and implementation of the European employment principles

2004

#### **the Minister of Education**

C.18 to work out goals, priorities and objectives of the NSSD within the framework of the Creation of conditions for multicultural education, not only through providing education in mother tongues but also through inclusion into multicultural plans in generally binding legal regulations

2002

C.19 to work out goals, priorities and objectives of the NSSD in the Informatics Strategy of the Slovak Republic and in the Action Plan of the strategy implementation

C.20 to work out a draft Act on education in accordance with the NSSD

2002

C.21 to work out goals, priorities and objectives of the NSSD within the framework of Creation and implementation of principles and mechanisms for successful education of socially handicapped children and youth

2004

C.22 to work out goals, priorities and objectives of the NSSD within amendment to the Concept of the state science and technology policy till 2005

2005

**the Minister of Construction and Regional Development**

C.23 to work out goals, priorities and objectives of the NSSD in amendment to the National plan of regional development

2003

**the Minister of Health**

C.24 to work out goals, priorities and objectives of the NSSD within amendment to the Action plan for environment and health of the Slovak Republic

2005

C.25 to work out goals, priorities and objectives of the NSSD within the framework of the State health policy

2005

**the Minister of the Environment**

C.26 to work out a new draft Act on air in accordance with the NSSD

2002

C.27 to work out a draft Act on packages and package wastes in accordance with the NSSD

2002

C.28 to work out a draft Act on environmental labelling of products in accordance with the NSSD

2002

- C.29 to work out a draft Act on environmental management and audit scheme in accordance with the NSSD

2002

- C.30 to ensure updating of the National environmental action programme in accordance with the NSSD

2003

- C.31 to work out a draft Act on spatial planning and amendment to the Building Code in accordance with the NSSD

2004

**the Minister of Culture**

- C.32 to work out goals, priorities and objectives of the NSSD within the Strategy of culture development and the Concept of development of its individual areas

2003

**the Minister of Justice**

- C.33 to work out a draft re-codification of the fundamental civil standards (Civil code, civil trial) in accordance with the NSSD

2003

- C.34 to work out a draft re-codification of the fundamental criminal standards (Criminal code, criminal law) in accordance with the NSSD

2003

C.35 to work out a draft re-codification of the civil procedure and civil material law in accordance with the NSSD

2003

C.36 to work out a draft re-codification of the international private law and international civil procedure in accordance with the NSSD

2003

**the Head of the Statistical Office of the Slovak Republic**

C.37 to ensure evaluation of statistical indicators of the NSSD in accordance with the Programme of state statistical investigation

2002 and annually

**the Heads of Regional Offices**

**the Heads of District Offices**

C.38 to work out goals, priorities and objectives of the NSSD within regional and local Agendas 21, action plans of sustainable development and updated regional operational plans

2003

**D. recommends**

**the Head of the Slovak Academy of Science**

D.1 in co-operation with the Minister of Education to take part in working out goals, priorities and objectives of the NSSD within the framework of amendment to the Concept of state science policy till 2005

2005

**Will be implemented by:** Prime Minister  
Vice-Prime Minister  
Minister of Economy  
Minister of Soil Management

Minister of Labour, Social Affairs and Family  
Minister of Education  
Minister of Construction and Regional Development  
Minister of Health  
Minister of the Environment  
Minister of Justice  
Minister of Culture  
Head of the Statistical Office of the Slovak Republic  
Heads of Regional Offices  
Heads of District Offices

**For information to:**

Head of the Slovak Academy of Science

## **7. Resolution of the National Council of the Slovak Republic No. 1989/2002**

2<sup>nd</sup> Election Period

Number: 2159/2001

**1989**

### ***Resolution of the National Council of the Slovak Republic***

**of 3 April 2002**

**on a draft National Strategy of Sustainable Development of the Slovak Republic (item 1229)**

### ***The National Council of the Slovak Republic***

#### **A. *approves***

a draft National Strategy of Sustainable Development of the Slovak Republic (item 1229);

#### **B. *requests***

*the Government of the Slovak Republic*

1. to submit to the National Council of the Slovak Republic annually by 31 March a report on progress achieved in meeting the tasks of the National Strategy of Sustainable Development according to individual sectors,

2. within draft strategic documents and draft Acts mentioned in the Resolution of the Government of the Slovak Republic 978/2001, submitted to the National Council of the Slovak Republic, to mention their compliance with conclusions, priorities and objectives of the National Strategy of Sustainable Development.

Jozef Migaš

President of the National Council of the Slovak Republic

Verified by:

Dušan Švantner

Jaroslav Slaný