

United Nation Convention to Combat Desertification



First National Report of the SLOVAK REPUBLIC

by

**Soil Science and Conservation Research
Institute, Bratislava
as National Focal Point**

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1. Introduction

The main objective of the Convention is to combat the desertification in countries impacted by drought and land degradation. The Convention should help to improve revitalization, protection and sustainable use of soil, water sources, improve living conditions in impacted areas, especially at the local level. Annex V to the Convention, adopted in 2001, is a program for the countries of the Central and Eastern Europe and represents the framework for soil and landscape protection against degradation.

The Slovak Republic as a signatory country, in accordance to statute of the Convention, is both developed and, at the same time, an affected country. This means, that Slovakia is obliged to address its own problems with desertification, and soil and land degradation and it has also committed to organize expert or other form of aid to those countries that are impacted by desertification and land degradation (mainly developing countries).

Following the decision of the first session of the COP, affected countries are requested to report on their activities to implement the Convention.

2. Participatory process

National activities after the accession of Slovakia to the Convention (January 7, 2002) were focused on the establishment of administrative structures. The following bodies were designated:

- the National Secretariat to the Convention – the Department of Foreign Affairs at the Ministry of Agriculture (MoA),
- the National Focal Point – Soil Science and Conservation Research Institute Bratislava (SSCRI)
- the National Advisory Committee of the Convention, that functions in a coordination with Secretariat and the NFP. It includes representatives of central bodies, scientific and research institutions and academics.

Based upon Government Resolution No. 348/2001, for implementation of the Convention in the Slovak Republic are responsible ministries, namely the Ministry of Environment, the Ministry of Agriculture and the Ministry of Foreign Affairs.

In line with Convention (Annex V, Art. 3/2; Annex V, Art. 4b) a consultative and participatory process, involving appropriate levels of government, local communities and non-governmental organization, should be undertaken to provide guidance on a strategy with flexible planning and implementation of action program. Till now participatory approach is considered as in structure of National Advisory Committee of the Convention as well as in the process of elaboration and acceptance of the National Action Plan (NAP).

The National Advisory Committee of the Convention consists of representatives from several types of institutions as follows: Ministry of Agriculture, Ministry of Environment, Ministry of Foreign Affairs, Soil Science and Conservation Research Institute in Bratislava, National Research Centre in Zvolen, Technical University in Zvolen, Water Research Institute in Bratislava, Slovak Agriculture University in Nitra, Slovak Academy of Sciences - Institute of Landscape Ecology in Bratislava and DAPHNE Institute of Applied Ecology, Bratislava. The aim is to reach operability or flexibility at preparation of resource documents relevant to Convention.

In the line with Convention (Annex V, Art. 3/1) National Action Program is an integral part of the policy framework for sustainable development and address the various forms of land degradation, desertification and drought affecting the parties of the region (Central and Eastern Europe). NAP represent a set of legal, institutional, and economic instruments in order to address demands of the individual country within the existing

political framework of sustainable development. Under supervision of NFP to the Convention and participation of experts from area of agricultural and environmental research, agriculturally and environmentally oriented universities and ministries (mostly MoA and ME SR) till now was elaborated the draft of NAP. At present stage the NAP draft is under process of comments from broader society. The following reflects this reality and thus short analysis of existing status and proposed activities within NAP is discussed.

2. Legislative and institutional framework

Legislative framework

International and national strategic documents represent the primary level of handling relevant to environmental problems to that belong also soil/landscape desertification and degradation. Slovakia, as an EU member state, is obliged to implement strategies and policies of the EU, such as:

- Recommendation No. R(92)8 of the Committee of Ministers to Member states on soil protection
- Strategy of the EC for the soil protection adopted as implementing tool to the 6th EAP of the EU, so called Towards a Thematic Strategy for Soil Protection (EC, 2002, 2004)^{1,2}
- Revised European Charter for the Protection and Sustainable Management of Soil
- reform of the Common Agricultural Policy – AGENDA 2000.

From most relevant cross-cutting and sectoral documents relevant to Convention it is necessary to mention the following ones:

- Strategy, principles and priorities of state environmental policy of the Slovak Republic (1993)
- National strategy of sustainable development (2001)
- National environmental action programme II (1999)
- Concept of preservation and use of the soil in SR
- State soil policy (2001)
- Proposal of programme for water supplies management to 2010
- National plan of regional development of SR (2001)
- Concept of territory development of SR (2001)
- Rural development plan of SR for period 2004-2006, and others.

From mentioned strategic documents result the target measures that encompass are of creation, harmonisation and enforcement of legal documents, as well as more general requirements on soil protection and other environment constituents within given way of landscape use, need of changes in environmental education on schools and outside them, non-excluding. Despite the targets in strategic documents affect usually positively, their realisation in practice is not always sufficient or satisfactory.

In the context with Convention (Art. 5e, Art. 8) the parties should provide an enabling environment by strengthening relevant national legislation and, where they do not exist, enacting new laws. This requirement is gradually fulfilled as the EU Environmental Directives are transposed into as national legislation.

On the state level does not exist any framework legislation that cross-sectionally address the issues of soil and land protection against degradation/desertification. Existing legislation is heavily fragmented (see Table 1).

Land protection against drought and floods is involved into Water Act No. 364/2004 of Code (§ 11), where within water planning the administrators of the management of

¹ European Commission: Towards a thematic strategy for soil protection. COM(2002)179 final. Brussels, 2002, 35 p.

² Van Camp,L., et al.: Reports of the technical working groups established under the thematic strategy for soil protection. Office for official publications of the European Communities, Luxembourg, 2004, 872 p.

water supplies streams should provide the coordination of water-management tasks in system of territorial system of ecological stability and measures to mitigate unfavourable effects of floods and drought. Mentioned act follows from implementation of EU Water Framework Directive No. 60/2000 that in Slovak conditions is assumed in period 2002 to 2019. Till now the drought problem was solved rather as consequence in form of compensation than strong-minded prevention of its consequences. Despite that existing compensations of farmer loses from the state were insufficient.

Legislation relevant to soil and landscape protection against degradation is with regard to its complexity considerably scattered. A coordinated cross-sectoral approach does not exist. Despite several attempts to preserve all soil by one legislative document there was not sufficient will from side of relevant sectors or ministries. In Slovak Republic soil protection is treated in Act No. 220/2004 of Code on protection and use of agricultural soil. This act regulates conditions on the use of the soil including the measures aimed to mitigate soil degradation. Although the adoption of the Act was not conditioned by the accession to the Convention, the Act is a response to European and national demands. As Slovakia is the EU member, it follows the principles of the Common Agricultural Policy including the support instruments of the Simplified Area Payments Scheme (SAPS). These tools allow granting environmentally friendly agricultural activities. Similarly, the measures of the Agri-environmental program are implemented.

According to the Act No. 220/2004 on the protection and use of agricultural soil, the Soil Conservation Service (SCS) was established, as an independent department at the SSCRI. The SCS carries out activities aiming to protect agricultural soil and its use. This institutional strengthening is based upon the adoption of new legislation (Act No. 220/2004) on the protection and utilization of agricultural soil. The SCS supervises, in cooperation with other relevant state administration bodies, the following activities:

- survey and monitoring of agricultural soil
- keeping record and information databases on agricultural soil
- elaboration of proposal to mitigate soil damage
- analysis, assessment and quantification of the status and development of soil degradation
- development of proposals for procedures and projects aiming to protect and sustainable use of agriculture soil in specific localities.

Agricultural and forest soil preservation is treated also in Act No. 188/2003 of Coe on application of slurry and river bed sediments that regulates the soil loading by pollutants of inorganic and organic origin. Activities of subjects at soil and landscape use are regulated in several legal documents, introduced in the Table 1. Many legal documents are the result of approximation and implementation of EU legislation.

Table 1 Overview of legislation relevant to soil/land protection against desertification and degradation

Legislative document	Area of document force	Area of handled problems in elation to Convention
<i>Aridisation of soil and landscape</i>		
Act No. 364/2004 of Code – Water act	cross-cutting	water planning, coordination the tasks of water-management within territorial system of ecological stability, and mitigation of unfavourable effects of floods and drought
<i>Soil and land degradation</i>		
Act No. 220/2004 of Code on protection and use of agricultural soil	agriculture	soil preservation against degradation and permanent sealing for economy use
Act No. 188/2003 of Code on application of sludge and river bed sediments on agricultural and forest soil	agriculture forestry	controlling of pollutant inputs at waste recycling
Act No. 326/2005 of Code on forests	forestry	preservation of the soil against sealing for economy use, soil preservation through

		forest vegetation, enhancement of water retention in forested territory
Act No. 127/1994 of Code on environmental impact assessment in wording of subsequent amendments	cross-cutting	preservation of environmental constituents (biota, soil, air) against degradation and pollution
Act No. 245/2003 of Code on integrated prevention and control of environment pollution	cross-cutting	decrease of air, water and soil pollution from industrial activities
Act No. 543/2002 of Code on preservation of nature and landscape in wording of subsequent amendments	cross-cutting	territorial preservation of nature and land in through 5 degrees to regulate activities at use of soil and landscape
Act No. 109/1998 of Code on territorial planning and building code (building) in wording of next amendments	cross-cutting	provision the functional use of territory at respecting environmental territory limits
Act No. 211/2000 of Code on free access to the information	cross-cutting	access of publics to the information

Institutional framework

As above mentioned, responsibility to implement principles and measures with respect to accession to the Convention is under the Ministry of Agriculture, Ministry of Environment and Ministry of Foreign Affairs. These central bodies supervise regional and local state administration and administer supporting institutions. The analysis of main stakeholders including their competencies/importance with respect implementation of to Convention is summarized in following text.

Ministry of Agriculture

- National Secretariat of the Convention
- monitoring of the Convention implementation
- reporting to the Convention Secretariat
- responsibility in the area of use and protection of agricultural and forestry soils
- creation, implementation and upgrading of legislation with respect to protection and use of soil
- use and protection of water sources for irrigation systems
- management, administration and exploitation of drainage systems
- creation and implementation of forestry legislation.

Its role is assumed at

- primary responsibility to meet the requirements of the Convention
- initiative function to amend legislation related to the Convention
- participation and creation of cross-cutting legal documents related to use and protection of soil, water and landscape against desertification and degradation
- initiation of technical measures and education activities related to the Convention
- establishing of financial mechanisms and support of activities with respect to the Convention
- participation at cross-cutting financial mechanisms to protect soil and landscape.

Regional and District Land (Soil) and Forestry Offices

- administration, supervision and decision making in area of soil protection, land layouts in agricultural sector.

Their role is assumed at

- enforcement of legislation on soil protection and land administration
- participation in education and training in the agricultural sector.

Agricultural Payment Agency

- implementation of legislation on subsidies from European and national funds.

Its role is assumed at

- supervision and control of allocation of financial sources
- control the respecting of environmental standards as precondition of EU subsidy payment to farmers.

Soil Science and Conservation Research Institute, Bratislava

- National Focal Point to the Convention
- administration of partial monitoring system SOIL

- center of soil monitoring to meet the Agreement between Slovakia and Hungary (Water dam Gabčíkovo)
- center of information system on agricultural soils and Land Parcel Information System of Slovakia
- research activities on protection and use of agricultural soil and mitigation measures to avoid externalities
- creation of specialized documents (guidelines, codices) for a good agricultural practice
- provision of activities that support soil conservation (Soil Conservation Service).

Its role is assumed at

- provision of tasks of NFP
- analysis of needs in the area of legislative initiatives, use and protection of soils
- development of implementing guidelines for decision makers
- development of specialized documents to increase professional skills of employers, soil users, and the public; release of publications on soil protection and degradation
- participation in the development of legal documents with respect to soil protection
- regular assessment of the status of soil degradation
- initiatives of technical measures and education training
- raise new knowledge and research on the development of soil degradation in Slovakia using a monitoring and research projects.

National Forest Centre, Zvolen

- administration of partial monitoring system FORESTS
- creation of specialized documents (guidelines, procedures) for good forestry practice in order to ensure multi-function use of forestry
- cooperation on National reporting for Climate Changes Convention in the area of agriculture and forestry
- processing and development of forest economic use plans
- information forestry center.

Its role is assumed at

- analysis of needs in the area of legislative initiatives, use and protection of forests
- development of implementing guidelines for decision makers
- development of specialized documents to increase professional skills of employers, forest users, and the public; release of publications on forests and soil protection and degradation
- participation in the development of legal documents with respect to forest/soil protection
- raise new knowledge and research on the development of soil degradation of forests in Slovakia using a monitoring and research projects
- projection of sustainable use of forests.

Ministry of Environment

- National Focal Point for related Conventions (UNFCCC, CBD)
- creation, implementation and upgrade of relevant environmental legislation including development of policies with respect to landscape engineering, integrated nature protection.

Its role is assumed at

- initiation of amendments to existing legislation
- participation and creation of cross-cutting legal documents related to the use and protection of landscape, air, water, biota against degradation
- initiation of technical measures and education activities related to the Convention
- participation in the creation of financial mechanisms and support of activities with respect to the Convention
- participation at cross cutting financial mechanisms to protect soil and landscape.

Regional and District Environmental Offices

- administration, supervision and decision making in competencies of the MoE.

Their role is assumed at

- implementation of environmental legislation
- participation in education and training in environmental management.

Slovak Hydrometeorological Institute, Bratislava

- responsible for the partial monitoring systems: WATER, AIR, METROLOGY, CLIMATOLOGY
- provision of long term measurements and observation the development of climate parameters
- coordination of the POVAPSYS (flood early warning and forecast system)
 - active participation in the UNFCCC implementation.

Its role is assumed at

- provision of access to relevant information.

Water Research Institute, Bratislava

- preparation of background documents for amendments of existing legislation in water management

- development of strategic and specialized documents for use and protection of water sources
- initiation of technical measures in area of flood control
- development and delivery of training course in water management.

Its role is assumed at

- creation of policies and coordination of measures mitigating impacts of floods and drought.

Slovak Environmental Agency, Banská Bystrica

- supporting of environmental education and organization of training courses
- National Focal Point for EEA reporting
- administration of national internet centre (CIRCA - Communication and Information Resource Centre Administrator)
- education activities.

Its role is assumed at

- administration of environmental monitoring
- initiation to the change, extent, upgrade of monitoring
- support of environmental education
- control and assessment of the status of soil and land degradation.

State Nature Protection Administration

- administrating of partial monitoring system BIOTA.

Its role is assumed at

- participation on the control and assessment of status of soil and land degradation.

Slovak Water Management Enterprise, state enterprise, Banská Štiavnica and its basin branches

- river basin management including flood control
- development of integrated river basin plans.

Their role is assumed at

- coordination of water management to ensure ecological stability
- coordination of measures to mitigate impacts of floods and drought.

Ministry of Education

- cooperation on the education of the public
- responsible for the development of research programs in area of Rio conventions in general.

Its role is assumed at

- implementation of issues related to desertification and soil degradation into curricula of basic and advanced secondary schools
- preparation and implementation of research programs.

Universities (namely Slovak Agricultural University in Nitra, Comenius University in Bratislava, Technical University in Zvolen)

- research and education in relevant areas on use and degradation of soil and land
- development of specialized documents (methodologies, procedures)
- support to assess monitoring results.

Their role is assumed at

- development of specialized documents to support decision makers
- development and support of strategies, education documents related to land degradation.

Slovak Academy of Sciences

- research on methodologies relevant to land degradation
- participation in the assessment of soil degradation
- participation in research and education projects related to soil and land degradation.

Its role is assumed at

- gain new knowledge on soil and land degradation in Slovakia based upon innovative approaches
- support to the development of strategies and education documents related to land degradation.

Ministry of Construction and Regional Development

- administration in the area of urban planning and construction regulation.

Its role is assumed at

- provision of up-to-date information on regional urban development.

Ministry of Foreign Affairs

- coordination of the representation of Slovakia at COP
- allocation of financial resources to implement foreign aid related to the Convention
- establishment of contacts with developing countries with respect to potential aid.

Its role is assumed at

- co-participation in development of financial mechanism for capacity development.

Ministry of Finance

- administration of financial resources related to implementation of the Convention.

Its role is assumed at

- co-participation in creation of a cross-cutting financial mechanism to develop implementing capacities.

Agricultural and forestry farmers /agro-companies/agro-cooperatives

- direct impact of soil quality, soil and land use.

Their role is assumed at

- respect to environmental principles transposed in guidelines and preventive measures.

Self-Governments (towns and villages)

- responsibility for status and protection of the local environment.

Their role is assumed at

- co-participation in public awareness raising activities, and public education initiatives related to desertification, degradation and impact on soil and land use

- financial support to mitigation projects.

Non-governmental organizations

- initiatives, education activities, monitoring and informal influence of government activities.

Their role is assumed at

- participation in legal processes

- participation in education and public awareness raising campaigns

- proposals of alternative solutions and approaches.

Media

- dissemination of information.

Their role is assumed at

- participation on education and public awareness raising campaigns.

3. Linkages and synergies with other environmental conventions

Mutual links of the three Rio conventions (on biological diversity, climate change and desertification) concern mainly cross thematic areas and activities, including the transfer of technologies, education and public awareness, research and systemic observation, capacity strengthening reporting, assessment of impacts and mitigation measures. These conventions (and other global conventions, such as the Ramsar Wetland Convention) should be mutually coordinated. The main coordination should be with respect to mutual exchange of information and experience. A significant role to strengthen cooperation and reaching synergies is played by the "Joint Liaison Group", consisted of the members of appropriate bodies of conventions and representatives of their Secretariats. The objective of the group is to improve coordination between Conventions (particularly in area of information exchange, preparation of common work plans) that contribute to harmonization of approaches.

In general, cross-cutting issues are covered and discussed at ad-hoc inter-governmental panels, or working groups. Efficiency is not very high. A common working or expert group that would cover the issues of the three Rio conventions has not been established in Slovakia. Insufficient attention has been paid to coordination of activities with respect to meeting the Rio Convention requirements. Also, no detailed analysis of common or cross-cutting issues exist, therefore, there is no independent control of projects (ranging from research, education, monitoring, to capacity building and policy formulation) to ensure that they are not overlapping or duplicating one another. The same is valid for allocation of financial resources.

The National Strategy of Sustainable Development (NSSD) includes issues of desertification indirectly, mainly with respect to the mitigation of negative impacts of climate change. It should be noted, that the NSSD was adopted before the accession of Slovakia to the Convention. The NSSD includes the issue of soil and land degradation. The main shortcoming of the national strategic documents is their weak implementation

and lack of enforcement of existing legislation. This is due to the absence of coordination of legal, financial and in part institutional systems.

4. Threats and measures for rehabilitation of degraded land

Relevant national strategic documents and of course legal documents address the soil and land protection through the firm measures, which are also in accordance with the requirements of the Convention (particularly the Annex V). In addition, proposed measures in various strategic documents are essential to address unfavorable status of soil and land, excessive water erosion, compaction of soil, acidification, and soil pollution. The most important appear the relevant measures at the system level that regulate water regime. The following text offers short review of threats relevant to Convention.

Drought

Development of climatic conditions in last period is one of determining factors for drought occurrence. During last 100 years in Slovak conditions was recorded a trend of increase of mean annual air temperature of 1.1°C and a decrease of mean annual precipitation totals of 5.6% (in the south of Slovakia the decrease exceed 10%, in the north and north-east exceptionally an increase up to 3% for the whole century). A significant decrease of relative humidity (up to 5%) was also recorded, particularly in the South-West of Slovakia, and decrease of characteristics of snow cover almost in whole Slovak territory. Especially the South of Slovakia has been drying up. Besides increase the risk of local floods (especially in 1996 to 2000), in period 1989-2000 local or nationwide drought occurred more frequently than before, which was caused mainly by long periods of warm weather, while precipitation totals did not exceeded the interval of standard since 1975. Mentioned floods did not cause any significant increase of average water volume that means that they were "compensated" by another extreme – small water volume or long-term decrease of water in the other parts of the year. The decade from 1991 to 2000 with characteristics of air temperature, precipitation totals, evapotranspiration, snow cover and other elements came closer to expected conditions toward the year 2030 (according to climate change scenarios for Slovakia)³.

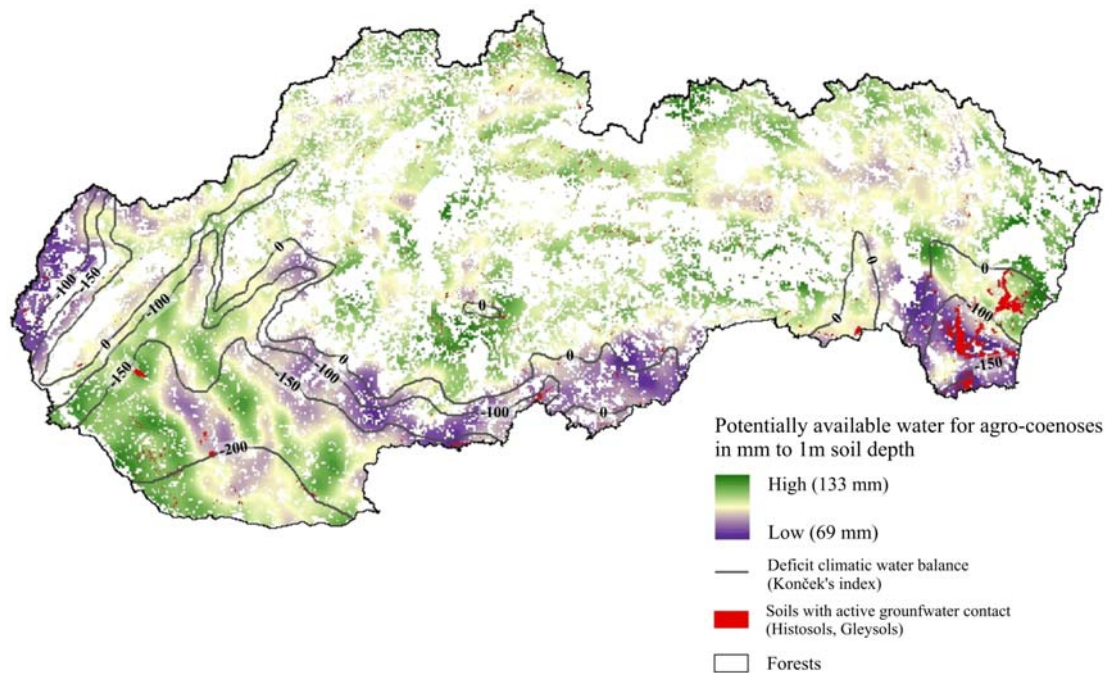
Despite of mentioned the yearly consumption of irrigation water (in agriculture sector) decreased in period 1991-2003 in comparison to period 1980-1990 by 70%. Mentioned fact is caused by increase of payment for irrigation water off-take.

In context of Convention the drought is in simplified manner expressed as balance variable of ratio of yearly precipitation total to evapotranspiration in range of values 0.05 to 0.65. This principle of drought evaluation is not valid for Slovak conditions. According to European Soil Bureau⁴ information the Slovak Republic belongs rather to the countries where drought problem needs active solution. This is confirmed especially by consequences of drought in agricultural sector. One of source for definition of risk of drought occurrence is the next figure, which express potential ground water supply available for agricultural crops. The increased attention is necessary to pay to areas with deficit climatic water balance (humidity index ≤ 0) and without significant soil contact with ground water. Available water supply for agrophytocenoses is expressed as difference between field water capacity and wilting point.

³ The third national communication on climate change. The Ministry of Environment of the Slovak Republic, Bratislava, 2001, 111 p.

⁴ Vogt, J.V., Somma, F. (eds.): Drought and drought mitigation in Europe. Kluwer Acad. Publ. Dordrecht, 2000, 336 p.

Figure 1 Potential drought occurrence in Slovak conditions



Soil & land degradation

The agricultural and forest soil represent more than 90% of total land area. To the 1st January 2006 agricultural soil represented 2432979 ha (49.6%) and forest soil 2005234 ha (40.9%). Remaining land belongs to the water areas (1.9%), urban and economy areas (4.6%) and other non-specified land (3.0%). The forest area, in contrary to agricultural one, has increasing character that is considered as positive trend.

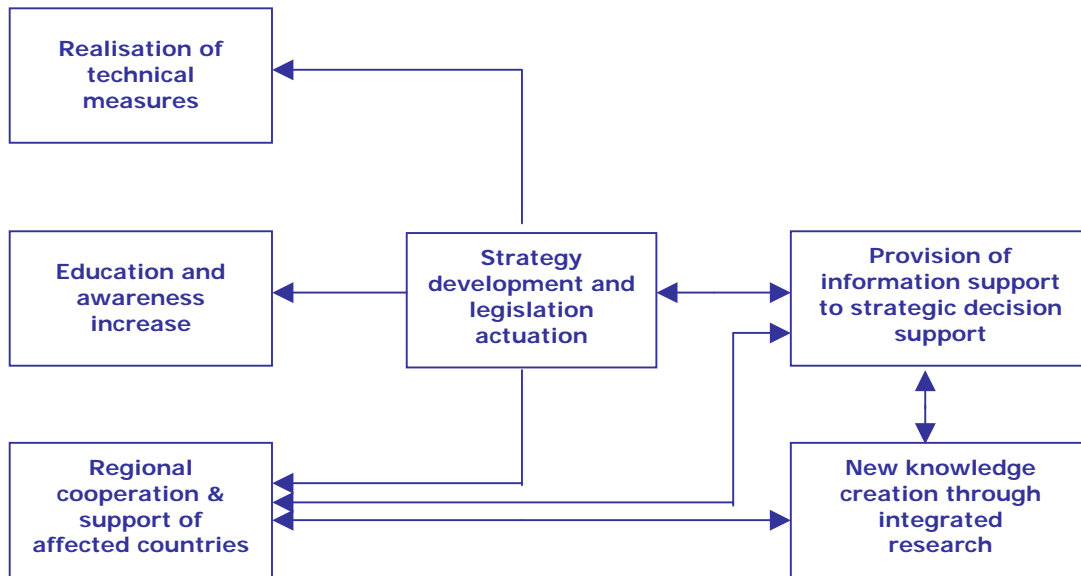
The significance of soil threats in agricultural sector decreases in order: decrease of soil organic matter (organic carbon) > water erosion > compaction > acidification > wind erosion > pollution. Agricultural soil sealing, 4-5 hectare per day, is regionally specific. In comparison to EU countries seems acceptable. Soils in forestry sector are often affected by acidification and pollution. Soils in urban or industrial areas are regionally affected by pollution and compaction (see Table 2).

The pilot areas of activities for prevention or mitigation of soil/land desertification and degradation and their mutual interdependence illustrates Fig.2.

Table 2 Overview of soil degradation in the Slovak Republic

Soil threat	Status	Significance
<i>Agricultural sector</i>		
Erosion (water)	56 % area potentially threatened	very significant
Erosion (wind)	6.5 % area potentially threatened	less significant
Decrease of SOM	more than 59 % area affected through soil cultivation and deficient OM input	very significant
Compaction	27 % area affected by subsurface compaction	very significant
Landslides	negligible extent	non significant
Contamination	below 1,5 % area reaching/exceeding of acceptable limits	less significant
Acidification	17.5%	significant
Salinization	0.2% area occupied by saline soils (Solonchaks and Solonetz)	non significant
Sealing	tolerable extent (around 4 ha daily) but increasing trend	less significant
<i>Forestry sector</i>		
Erosion - water	minor extent, mostly on sloppy areas after timber extraction or disasters	non significant
wind	negligible extent	non significant
Decrease of SOM	minor extent, areas under forest rather accumulate SOM	non significant
Compaction	negligible extent	non significant
Landslides	minor extent - on deforested steep slopes or forest/infrastructure interface	less significant
Contamination	around 7% area directly influenced by local sources of immissions	significant
Acidification	55% area has soil pH _w below 5.0 due to emission deposition	very significant
Salinization	negligible extent around routes	non significant
Sealing	negligible extent, recently forest area increases on account of agriculture	non significant
<i>Urban and industrial area</i>		
Erosion - water	negligible extent	non significant
wind	negligible extent	non significant
Decrease of SOM	minor extent	non significant
Compaction	practically all area is affected in different extent	very significant
Landslides	minor extent mostly on forest/infrastructure interface in hilly areas	less significant
Contamination	most relevant to cities with high traffic and industrial influence	very significant
Acidification	minor extent	less significant
Salinization	areas around roads chemically treated in winter period	significant
Sealing	urban areas gradually increases due to sealing of next mostly agricultural soil	not relevant

Figure 2 Mutual inter-dependence of assumed activities for prevention or mitigation of soil degradation as part of National action programme to UN CCD



CREATING AND OPERATION OF INFORMATION TOOLS FOR STRATEGIC DECISION SUPPORT

Definition the extent and intensity of soil degradation processes is first precondition for planning necessary actions and measures based on objective information. To solve this problem it is necessary to continue in provision of permanent monitoring of agricultural and forest soil properties development (provided in Slovakia since 1992) taking into account recent EU demands. Non-negligible is also need to develop special information system on urban and industrial areas.

CREATION OF NEW STRATEGIC DOCUMENTS, ACTUATION OF EXISTING AND DEVELOPMENT NEW NATIONAL LEGISLATION RELEVANT TO CONVENTION

The decisive international strategic documents relevant to soil and environment protection find application in creation of national cross-cutting and sectoral strategic documents. From many of them it is mentioned National strategy of sustainable development (2001), Concept of soil preservation and use (2000) as well as Rural Development Plan of Slovak Republic (2004). For realisation of positively oriented goals and measures in these documents is missing adequate and efficient legislative support.

The most developed national legislation relevant to soil protection against degradation is observed in agricultural sector represented by act No. 220/2004 on soil protection as well as act No. 188/2003 that prevents soil pollution from application of sludge and river basin sediments. Activities in forest sector are treated by act No. 61/1977 on forests and act No. 100/1977 on forest management. The soil protection is considered as secondary effect of forest management as afforested land is considered the primary measure for soil protection. Soil protection in urban areas is until now not treated by special legislation document.

Next legislation documents, more oriented to land use and preservation, deal with territorial planning, environmental impact assessment, integrated prevention and control of pollution and preservation of nature and land.

PROPOSAL AND REALISATION OF TECHNICAL MEASURES TO MITIGATE SOIL DEGRADATION PROCESSES

System of measures having regulatory and preventive character will aim to the improvement of soil use and management through consistent application the principles of good or best practice as in agriculture as well as in forestry.

CONTINUAL CREATION OF NEW KNOWLEDGE

For creation of new knowledge there is necessary to prepare proposal of new cross-cutting national research program relevant to land desertification and soil degradation and provide it's financing from state budget. Integrated solution of this problem assumes to improve of cooperation among individual institutions.

INCREASE OF ENVIRONMENTAL AWARENESS OF SOIL USERS AND BROADER POPULATION

Spontaneous or non-regulated economy changes in society, having positive environmental effect, usually negatively influence the living standard of population in countryside. As example can be mentioned decrease of production intensity in agriculture in previous period. This process have had positive effect on decrease of soil erosion and loading of soil by chemicals (fertilisers, pesticides) but simultaneously have contributed to worsening of economic conditions of agricultural subjects and population on countryside.

Primary reason and accelerator of changes in soil and environment is the human and permanent satisfying his increasing demands. Quality of thinking and subsequently of life is decisive factor of next progress. In line with mentioned increasing of soil users and public awareness on reasons and consequences of soil degradation and its broad societal context. It is necessary to develop sufficient capacities for periodical education of soil users in agriculture and forestry. Positively is evaluated the elaboration of codes of good agricultural practice for protection of soils and affected environmental sources in agriculture. Improvement and enforcement of cooperation professional institutions with media can create good basis for gradual improvement the status in soil and environment protection.

SUPPORT OF REGIONAL COOPERATION AND PROVISION OF PROFESSIONAL AID TO AFFECTED COUNTRIES

This area of activities represents the way of help to other affected countries to mitigate of soil degradation.

Summary

Taking into account above mentioned information the most significant areas related to Convention as part of NAP draft are the follows:

Information issues for strategic decision support

- identification of vulnerable zones with regard to real and potential drought occurrence in the Slovak territory
- continual monitoring and evaluation of drought in the soils and landscape space
- creation and operation of information system on dry areas and drought occurrence on Slovak territory
- to continue in provision of partial monitoring system SOIL
- to continue in development and operation of partial monitoring system FORESTS inclusive detection by remote sensing
- to continue in provision of partial monitoring system WATER
- identification and spatial interpretation of soil/land degradation on Slovak territory
- development and provision of monitoring and evaluation of measures within NAP to Convention

Creation the strategic and legal documents

- elaboration and approval the strategy to mitigate the landscape drying and soil degradation

- realisation of technical measures of investment and non-investment nature for mitigation of processes and consequences of soil/land drying and degradation

Creation of new knowledge, education and increase the awareness of professional and broader public

- integration of problem of land drying and soil degradation into themes supported by State Programme of Science and Research and ensure its financing
- provision of periodical education/training of soil users in agriculture and forestry
- increase the awareness of broader public in area of reasons and consequences of land/soil drying and degradation and measures to prevent and mitigate them

Support of regional cooperation and aid to affected countries

- support of regional cooperation in area land drying and soil degradation and offer the expert aid to affected countries.

Part B – subitems 1-8:

1. Focal point institution

Name of focal point	Soil Science and Conservation Research Institute
Address including e-mail address	Gagarinova 10, 827 13 Bratislava, Slovak Republic sci@vupu.sk
Country-specific websites relating to desertification	1. www.vupu.sk 2. www.mpsr.sk

2. Status of NAP

Date of validation	
NAP review(s)	June 2005-June 2006
NAP has been integrated into the poverty reduction strategy (PRSP)	No
NAP has been integrated into the national development strategy	No
NAP implementation has started with or without the conclusions of partnership agreements	No
Expected NAP validation	unknown
Final draft of NAP exists	Yes
Formulation of draft NAP is under way	-
Basic guidelines for a NAP have been established	-
Process has only been initiated	-
Process has not yet started	-

3. Member of SRAP/RAP

Name of sub-regional and/or regional cooperation framework	Involvement specifically in topics such as water harvesting techniques, soil erosion etc.
No participation in cooperation framework	

4. Composition of the NCB

The name of institution	Government	NGO	Male/female
Ministry of Agriculture	√		F (4x)
Ministry of Foreign Affairs	√		M
Ministry of Environment	√		M + F
Soil Science and Conservation Research Institute, Bratislava	√		M
National Forest Centre, Zvolen	√		M
Water Research Institute, Bratislava	√		M
Slovak Agricultural University, Nitra	√		M
Technical University, Zvolen	√		M
Institute of Landscape Ecology of Slovak Academy of Sciences, Bratislava	√		F

DAHPNE Institute of Applied Ecology, Bratislava		√	M
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5. The number of NGOs accredited to the process:

Has an NGO National Coordinating Committee on desertification has been established; if yes how many NGOs or civil organisations participate in it?	Yes; one NGO participates (DAHPNE)
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6. Total number of acts and laws passed relating to the UNCCD: 9

Name up to five most relevant acts and laws and/or regulations

Title of the law	Date of adoption
Act No. 364/2004 of Code – Water act	2004
Act No. 220/2004 of Code on protection and use of agricultural soil	2004
Act No. 326/2005 of Code on forests	2005
Act No. 188/2003 of Code on application of sludge and river bed sediments on agricultural and forest soil	2003
Act No. 543/2002 of Code on preservation of nature and landscape in wording of subsequent amendments	2002
Act No. 127/1994 of Code on environmental impact assessment in wording of subsequent amendments	1994

7. The consultative process

Number of partnership agreements that have been concluded and/or are being initiated within the framework of the UNCCD

Official title of partnership	Donor(s), international organisation(s), and/or agencies of the UN system involved	Date of (expected) conclusion
Co-operations outside of agreements		

List of consultative meetings on UNCCD implementation

Name of consultative meeting	Date/year	Donor countries involved	International organisations or agencies of the UN system involved
-	-	-	-

8. Name up to 10 projects currently under implementation which are directly or indirectly related to the UNCCD

Name of project	Project implemented within the framework of the NAP/SRAP/RAP?	Project implemented within the framework of RTD projects under Ministry of Agriculture	Timeframe	Partners involved	Overall budget (SKK)
Detection and concerned regulation of soil resources with regard to climate change	No	Yes	2005-2008	SSCRI	12,800
Multifunctional soil use	No	Yes	2006-2009	SSCRI	21,000
Development of functional relations of soil parameters and landscape for creation of information products and expert systems	No	Yes	2006-2009	SSCRI	24,000
Creation and evaluation of knowledge On soil properties evolution for effective soil preservation in agricultural land	No	Yes	2006-2009	SSCRI	29,000

C. UNCCD country profile

Slovak Republic

This UNCCD country profile has been provided by: Prof. Dr. Pavol Bielek, DrSc.
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Biophysical indicators relating to desertification and drought

1. Climate

1.1. Index of aridity = 1.18

1.2. Normal rainfall = 734 mm (1961-1990)

1.3. Rainfall standard deviation = 92 mm

2. Vegetation and land use

2.1. NDVI ?

2.2. Vegetation cover (% of total land area) ?

2.3. Land use (percent of total land) ?

Land use	1990-1999 (1995)	2000-2005 (2003)
Arable crop land	1,479,104 ha	1,430,197 ha
Irrigated*	99,000 ha	94,000 ha
Rainfed	1,380,104 ha	1,336,197 ha
Pasture	839,025 ha	883,506 ha
Forest and woodland	1,992,257 ha	2,004,100 ha
Other land**	593,095 ha	585,586 ha

* really irrigated arable soil

** hop-gardens, vineyards, gardens, water areas, urban/industrial land, other land

2.4. Surface albedo = ?

3. Water resources

3.1. Fresh water availability (million m³) = 3018 (604 surface water supply, 2414 available ground water)

3.2. Fresh water resources per capita (m³) = 564

3.3. Agricultural water use (million m³) = 17 (recorded water supply in 2004)

3.4. Industrial water use (million m³) = 583 (recorded water supply in 2004)

5. Types of land degradation (recent status)

Soil threat	Status	Significance
<i>Agricultural sector</i>		
Erosion (water)	56 % area potentially threatened	very significant
Erosion (wind)	6.5 % area potentially threatened	less significant
Decrease of SOM	more than 59 % area affected through soil cultivation and deficient OM input	very significant
Compaction	27 % area affected by subsurface compaction	very significant
Landslides	negligible extent	non significant
Contamination	below 1,5 % area reaching/exceeding of acceptable limits	less significant
Acidification	17.5%	significant
Salinization	0.2% area occupied by saline soils (Solonchaks and Solonetz)	non significant
Sealing	tolerable extent (around 4 ha daily) but increasing trend	less significant
<i>Forestry sector</i>		
Erosion - water	minor extent, mostly on sloppy areas after timber extraction or disasters	non significant
wind	negligible extent	non significant
Decrease of SOM	minor extent, areas under forest rather accumulate SOM	non significant
Compaction	negligible extent	non significant
Landslides	minor extent - on deforested steep slopes or forest/infrastructure interface	less significant
Contamination	around 7% area directly influenced by local sources of immissions	significant
Acidification	55% area has soil pH _w below 5.0 due to emission deposition	very significant
Salinization	negligible extent around routes	non significant
Sealing	negligible extent, recently forest area increases on account of agriculture	non significant
<i>Urban and industrial area</i>		
Erosion - water	negligible extent	non significant
wind	negligible extent	non significant
Decrease of SOM	minor extent	non significant
Compaction	practically all area is affected in different extent	very significant
Landslides	minor extent mostly on forest/infrastructure interface in hilly areas	less significant
Contamination	most relevant to cities with high traffic and industrial influence	very significant
Acidification	minor extent	less significant
Salinization	areas around roads chemically treated in winter period	significant
Sealing	urban areas gradually increases due to sealing of next mostly agricultural soil	not relevant

9. Science and technology

9.1. Number of scientific institutions engaged in desertification-related work (total number): **7**

