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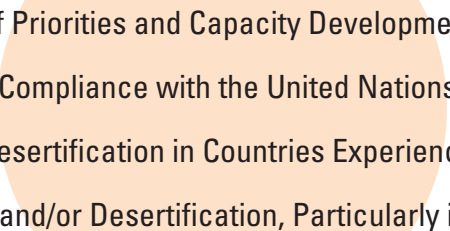


MINISTRY
OF THE ENVIRONMENT
OF THE CZECH REPUBLIC

Desertification

NATIONAL CAPACITY SELF-ASSESSMENT IN THE CZECH REPUBLIC
FOR FULFILMENT OF THE OBLIGATIONS OF THE RIO CONVENTIONS





Identification of Priorities and Capacity Development in the Czech Republic for Compliance with the United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa

Prepared for the Ministry of the Environment of the Czech Republic in Cooperation with United Nations Development Programme from GEF funds

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The capacity-building initiative was announced in 1999 by United Nations Development Program (UNDP) and the Global Environmental Fund (GEF). This initiative is one of the outcomes of the UN Conference on Environment and Development (UNCED) - the Earth Summit – held in 1992 in Rio de Janeiro. On the basis of the announced initiative, in 2003 the Czech Republic commenced a project of National Self Capacity Assessment in relation to implementing international UN conventions intended to improve the quality of the environment. This evaluation is the result of the work of special task forces of authors, who have assessed the preparedness of the Czech Republic for implementation of the UN Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa (UNCCD).

Capacity analysis included the current state of implementation of UNCCD; the requirements and potential for development of capacities in meeting their targets were determined at an individual, institutional and system level.

Key requirements were evaluated using the method of analysis of strengths, weaknesses, opportunities and threats (SWOT analysis), taking into account proposals for increasing and developing capacities.

At joint meetings, the results of the work of each special task force were compared with the results of the other task forces and it was found that the input information and results of the individual task forces overlap; this fact was employed successfully in crosscutting analysis of capacities.

The strengths included the long term tradition in education, adoption of the Czech national Official Development Assistance program and training of foreign students.

At an individual level, it was recommended that general knowledge of protection of the environment be increased, that the qualifications of employees in the decision-making sphere be improved and that the Czech National Committee for the UNCCD be provided with greater funds.

At an institutional level, it was recommended that communication and exchange of information amongst professionals and between professionals and other stakeholders be improved and that a coordination platform for research be created.

At a system level, it was recommended that the interconnection amongst legal soil -protection regulations be improved and that international activity be intensified.

Means for improvement of weaknesses are reflected in the recommendations of the task forces and are also elaborated in strategic planning for capacity building to meet the obligations of the Czech Republic following from accession to the UNCCD.

The tasks following from strategic planning are defined specifically in the capacity-building Action Plan.

Elaboration of the thematic reports was done mainly during 2005 and updated in January 2006, therefore most of the data reflects the situation valid at this time.

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LIST OF ABBREVIATIONS

CENIA – Česká informační agentura životního prostředí, Czech Environmental Information Agency
COP – Conference of the Parties, Konference smluvních stran Úmluvy
CRIC – Committee to Review the Implementation of the Convention, Výbor pro sledování plnění úmluvy
CST – Committee of Science and Technology, Výbor pro vědu a technologii
ČZU – Česká zemědělská univerzita, Czech Agricultural University

EAGGF – Evropský zemědělský orientační a záruční fond European Agricultural Guidance and Guarantee Fund
EK – Evropská komise, European Commission
ES – Evropské společenství, European Community
EU – Evropská unie, European Union

GEF – Global Environmental Facility, Globální fond pro životní prostředí

MPO – Ministerstvo průmyslu a obchodu, Ministry of Industry and Trade of the Czech Republic
MŠMT – Ministerstvo školství, mládeže a tělovýchovy, Ministry of Education, Youth and Sports
MZe – Ministerstvo zemědělství, Ministry of Agriculture of the Czech Republic
MZd – Ministerstvo zdravotnictví, Ministry of Health
MZLU – Mendelova zemědělská a lesnická universita Mendel Agriculture and Forest University
MZV – Ministerstvo zahraničních věcí, Ministry of Foreign Affairs of the Czech Republic
MŽP – Ministerstvo životního prostředí, Ministry of the Environment of the Czech Republic

NCSA – National Capacity Self-Assessment, Národní hodnocení kapacit
NEPAD – Nové partnerství pro rozvoj Afriky, New Partnership for African Development

OECD – Organization for Economic Cooperation and Development, Organizace pro hospodářskou spolupráci a rozvoj,
OSN – Organizace spojených národů, Unites Nations

PřF UK – Přírodovědecká fakulta UK, Charles University faculty of Science

RVV – Rada Vlády ČR pro výzkum a vývoj, Governmental Committee for Research and Development

SWOT – Strengths, Weaknesses, Opportunities and Threats, Analýza silných, slabých stránek, možností a omezení

UK – Univerzita Karlova, Charles University
UNCCD – United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, Úmluva o boji proti desertifikaci v zemích postižených suchem a/nebo desertifikací, zejména v Africe
UNCED – United Nations Conference of Environment and Development, Konference OSN o životním prostředí a rozvoji,
UNDP – United Nations Development Programme, Rozvojový program OSN,
UNEP – United Nations Environmental Programme, Program OSN pro životní prostředí,
UNESCO – United Nations Education, Science and Cultural Organization, Organizace OSN pro výchovu, vědu a kulturu
UNIDO – United Nations Industrial Development Organization, Organizace OSN pro průmyslový rozvoj,
UP – Univerzita Palackého, Palacky University
VÚMOP – Výzkumný ústav meliorací a ochrany půdy, Research Institute for Amelioration and Soil protection
WSSD – World Summit on Sustainable Development, Světový summit o udržitelném rozvoji

1.1 Context of the NCSA project in the Czech Republic

The international community has recognized that desertification is a serious economical, social and environmental issue affecting many countries of the world over a considerable period of time. The UN Conference on Desertification (UNCOD) adopted the Plan of Action to Combat Desertification (PACD) in 1977. However, it was stated in 1991 in the United Nations Environmental Program that, in spite of the expended efforts, the degradation of land in arid and semi-arid areas of the world was continuing, although there were certain cases of local success.

Options to address desertification were the subject of the United Nations Conference on the Environment and Development held in Rio de Janeiro in 1992. This conference supported a new integrated approach in addressing aspects of desertification and summoned UN General Assembly to establish an international negotiation commission to elaborate the UN Convention to Combat Desertification (UNCCD). The United Nations General Assembly accepted the appeal through Resolution No. 47/188 and the text of the “United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa” (hereinafter the “UNCCD”) was adopted on June 17, 1974 in Paris. The Convention was open to ratification by the governments of all the United Nations member states on December 14 to 15, 1994. The Convention entered into force on December 26, 1996, ninety days after it was ratified by the first fifty states. By January 1, 2006 the Convention has been ratified by 191 states ([full text Annex 1](#)).

The Czech Republic ratified the UNCCD on January 25, 2000 as the 161st state with the understanding that it is not amongst the countries directly affected by desertification. From the point of view of the Czech Republic, accession to the UNCCD was an expression of solidarity with the affected parties, particularly with developing countries, and of its willingness to collaborate in addressing global environmental issues. In the Czech Republic, the UNCCD became valid on April 24, 2000 as Act No. 53/2002 Coll. on International Agreements.

Terms used (see the text of the Convention, Part I, Article 1)

For the purposes of the UNCCD:

- a) “desertification” means land (soil) degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities;
- b) “combating desertification” includes activities which are part of the integrated development of land (soil) in arid, semi-arid and dry sub-humid areas for sustainable development which are aimed at:
 - i) prevention and/or reduction of land (soil) degradation;
 - ii) rehabilitation of partly degraded land (soil); and
 - iii) reclamation of desertified land (soil);
- c) “drought” means the naturally occurring phenomenon that exists when precipitation has been significantly below normal recorded levels, causing serious hydrological imbalances that adversely affect land resource production systems;
- d) “mitigating the effects of drought” means activities related to the prediction of drought and intended to reduce the vulnerability of society and natural systems to drought as it relates to

combating desertification;

e) "land" means the terrestrial bio-productive system that comprises soil, vegetation, other biota, and the ecological and hydrological processes that operate within the system;

f) "land degradation" means reduction or loss, in arid, semi-arid and dry sub-humid areas, of the biological or economic productivity and complexity of rainfed cropland, irrigated cropland, or range, pasture, forest and woodlands resulting from land uses or from a process or combination of processes, including processes arising from human activities and habitation patterns, such as:

(i) soil erosion caused by wind and/or water;

(ii) deterioration of the physical, chemical and biological or economic properties of soil; and

(iii) long-term loss of natural vegetation;

g) "arid, semi-arid and dry sub-humid areas" means areas, other than polar and sub-polar regions, in which the ratio of annual precipitation to potential evapotranspiration falls within the range from 0.05 to 0.65.

2 Obligations of the Czech Republic due to the UNCCD and its Implementing Plan

2.1 Obligations following from the UNCCD

The Czech Republic has accepted the obligations stipulated in the following provisions of the UNCCD

Part I Principles Article 3

In order to achieve the objective of this UNCCD and to implement its provisions, the Parties shall be guided, *inter alia*, by the following:

- a) the Parties should ensure that decisions on the design and implementation of programmes to combat desertification and/or mitigate the effects of drought are taken with the participation of populations and local communities and that an enabling environment is created at higher levels to facilitate action at national and local levels;
- b) the Parties should, in a spirit of international solidarity and partnership, improve cooperation and coordination at subregional, regional and international levels, and better focus financial, human, organizational and technical resources where they are needed;
- c) the Parties should develop, in a spirit of partnership, cooperation among all levels of government, communities, non-governmental organizations and landholders to establish a better understanding of the nature and value of land and scarce water resources in affected areas and to work towards their sustainable use; and
- d) the Parties should take into full consideration the special needs and circumstances of affected developing country Parties, particularly the least developed among them.

PART II GENERAL PROVISIONS Article 4 General obligations

1. The Parties shall implement their obligations under the UNCCD, individually or jointly, either through existing or prospective bilateral and multilateral arrangements or a combination thereof, as appropriate, emphasizing the need to coordinate efforts and develop a coherent long-term strategy at all levels
2. In pursuing the objective of the UNCCD, the Parties shall:
 - a) adopt an integrated approach addressing the physical, biological and socio-economic aspects of the processes of desertification and drought;
 - b) give due attention, within the relevant international and regional bodies, to the situation of affected developing country Parties with regard to international trade, marketing arrangements and debt with a view to establishing an enabling international economic environment conducive to the promotion of sustainable development;
 - c) integrate strategies for poverty eradication into efforts to combat desertification and mitigate the effects of drought;

- d) promote cooperation among affected country Parties in the fields of environmental protection and the conservation of land and water resources, as they relate to desertification and drought;
- e) strengthen subregional, regional and international cooperation;
- f) cooperate within relevant intergovernmental organizations;
- g) determine institutional mechanisms, if appropriate, keeping in mind the need to avoid duplication; and
- h) promote the use of existing bilateral and multilateral financial mechanisms and arrangements that mobilize and channel substantial financial resources to affected developing country Parties in combating desertification and mitigating the effects of drought.

3. Affected developing country Parties are eligible for assistance in the implementation of the UNCCD.

Article 5

Obligations of affected country Parties

In addition to their obligations pursuant to article 4, affected country Parties undertake to:

- a) give due priority to combating desertification and mitigating the effects of drought, and allocate adequate resources in accordance with their circumstances and capabilities;
- b) establish strategies and priorities, within the framework of sustainable development plans and/or policies, to combat desertification and mitigate the effects of drought;
- c) address the underlying causes of desertification and pay special attention to the socio-economic factors contributing to desertification processes;
- d) promote awareness and facilitate the participation of local populations, particularly women and youth, with the support of non-governmental organizations, in efforts to combat desertification and mitigate the effects of drought; and
- e) provide an enabling environment by strengthening, as appropriate, relevant existing legislation and, where they do not exist, enacting new laws and establishing long-term policies and action programmes.

Article 6

Obligations of developed country Parties

In addition to their general obligations pursuant to article 4, developed country Parties undertake to:

- a) actively support, as agreed, individually or jointly, the efforts of affected developing country Parties, particularly those in Africa, and the least developed countries, to combat desertification and mitigate the effects of drought;
- b) provide substantial financial resources and other forms of support to assist affected developing country Parties, particularly those in Africa, effectively to develop and implement their own long-term plans and strategies to combat desertification and mitigate the effects of drought;
- c) promote the mobilization of new and additional funding pursuant to article 20, paragraph 2 (b);
- d) encourage the mobilization of funding from the private sector and other non-governmental sources; and
- e) promote and facilitate access by affected country Parties, particularly affected developing country Parties, to appropriate technology, knowledge and know-how.

Article 7

Priority for Africa

In implementing the UNCCD, the Parties shall give priority to affected African country Parties, in the light of the particular situation prevailing in that region, while not neglecting affected developing country Parties in other regions.

PART III
ACTION PROGRAMMES, SCIENTIFIC AND TECHNICAL COOPERATION
AND SUPPORTING MEASURES

Section 1
Action programmes
Article 9
Basic approach

1. In carrying out their obligations pursuant to article 5, affected developing country Parties and any other affected country Party in the framework of its regional implementation annex or, otherwise, that has notified the Permanent Secretariat in writing of its intention to prepare a national action programme, shall, as appropriate, prepare, make public and implement national action programmes, utilizing and building, to the extent possible, on existing relevant successful plans and programmes, and subregional and regional action programmes, as the central element of the strategy to combat desertification and mitigate the effects of drought. Such programmes shall be updated through a continuing participatory process on the basis of lessons from field action, as well as the results of research. The preparation of national action programmes shall be closely interlinked with other efforts to formulate national policies for sustainable development.

2. In the provision by developed country Parties of different forms of assistance under the terms of article 6, priority shall be given to supporting, as agreed, national, subregional and regional action programmes of affected developing country Parties, particularly those in Africa, either directly or through relevant multilateral organizations or both.

3. The Parties shall encourage organs, funds and programmes of the United Nations system and other relevant intergovernmental organizations, academic institutions, the scientific community and non-governmental organizations in a position to cooperate, in accordance with their mandates and capabilities, to support the elaboration, implementation and follow-up of action programmes.

Section 2
Scientific and technical cooperation
Article 16
Information collection, analysis and exchange

The Parties agree, according to their respective capabilities, to integrate and coordinate the collection, analysis and exchange of relevant short term and long term data and information to ensure systematic observation of land degradation in affected areas and to understand better and assess the processes and effects of drought and desertification. This would help accomplish, *inter alia*, early warning and advance planning for periods of adverse climatic variation in a form suited for practical application by users at all levels, including especially local populations. To this end, they shall, as appropriate:

a) facilitate and strengthen the functioning of the global network of institutions and facilities for the collection, analysis and exchange of information, as well as for systematic observation at all levels, which shall, *inter alia*:

- i) aim to use compatible standards and systems;
- ii) encompass relevant data and stations, including in remote areas;
- iii) use and disseminate modern technology for data collection, transmission and assessment on land degradation; and
- iv) link national, subregional and regional data and information centres more closely with global information sources;

b) ensure that the collection, analysis and exchange of information address the needs of local communities

and those of decision makers, with a view to resolving specific problems, and that local communities are involved in these activities;

c) support and further develop bilateral and multilateral programmes and projects aimed at defining, conducting, assessing and financing the collection, analysis and exchange of data and information, including, *inter alia*, integrated sets of physical, biological, social and economic indicators;

d) make full use of the expertise of competent intergovernmental and non-governmental organizations, particularly to disseminate relevant information and experiences among target groups in different regions;

e) give full weight to the collection, analysis and exchange of socio-economic data, and their integration with physical and biological data;

f) exchange and make fully, openly and promptly available information from all publicly available sources relevant to combating desertification and mitigating the effects of drought; and

g) subject to their respective national legislation and/or policies, exchange information on local and traditional knowledge, ensuring adequate protection for it and providing appropriate return from the benefits derived from it, on an equitable basis and on mutually agreed terms, to the local populations concerned.

Article 17

Research and development

1. The Parties undertake, according to their respective capabilities, to promote technical and scientific cooperation in the fields of combating desertification and mitigating the effects of drought through appropriate national, subregional, regional and international institutions. To this end, they shall support research activities that:

a) contribute to increased knowledge of the processes leading to desertification and drought and the impact of, and distinction between, causal factors, both natural and human, with a view to combating desertification and mitigating the effects of drought, and achieving improved productivity as well as sustainable use and management of resources;

b) respond to well defined objectives, address the specific needs of local populations and lead to the identification and implementation of solutions that improve the living standards of people in affected areas;

c) protect, integrate, enhance and validate traditional and local knowledge, know-how and practices, ensuring, subject to their respective national legislation and/or policies, that the owners of that knowledge will directly benefit on an equitable basis and on mutually agreed terms from any commercial utilization of it or from any technological development derived from that knowledge;

d) develop and strengthen national, subregional and regional research capabilities in affected developing country Parties, particularly in Africa, including the development of local skills and the strengthening of appropriate capacities, especially in countries with a weak research base, giving particular attention to multidisciplinary and participative socio- economic research;

e) take into account, where relevant, the relationship between poverty, migration caused by environmental factors, and desertification;

f) promote the conduct of joint research programmes between national, subregional, regional and international research organizations, in both the public and private sectors, for the development of improved, affordable and accessible technologies for sustainable development through effective participation of local populations and communities; and

g) enhance the availability of water resources in affected areas, by means of, *inter alia*, cloud-seeding.

2. Research priorities for particular regions and subregions, reflecting different local conditions, should be included in action programmes. The Conference of the Parties shall review research priorities periodically on the advice of the Committee on Science and Technology.

Article 18

Transfer, acquisition, adaptation and development of technology

1. The Parties undertake, as mutually agreed and in accordance with their respective national legislation and/or policies, to promote, finance and/or facilitate the financing of the transfer, acquisition, adaptation and development of environmentally sound, economically viable and socially acceptable technologies relevant to combating desertification and/or mitigating the effects of drought, with a view to contributing to the achievement of sustainable development in affected areas. Such cooperation shall be conducted bilaterally or multilaterally, as appropriate, making full use of the expertise of intergovernmental and non-governmental organizations. The Parties shall, in particular:

- a) fully utilize relevant existing national, subregional, regional and international information systems and clearing-houses for the dissemination of information on available technologies, their sources, their environmental risks and the broad terms under which they may be acquired;
- b) facilitate access, in particular by affected developing country Parties, on favourable terms, including on concessional and preferential terms, as mutually agreed, taking into account the need to protect intellectual property rights, to technologies most suitable to practical application for specific needs of local populations, paying special attention to the social, cultural, economic and environmental impact of such technology;
- c) facilitate technology cooperation among affected country Parties through financial assistance or other appropriate means;
- d) extend technology cooperation with affected developing country Parties, including, where relevant, joint ventures, especially to sectors which foster alternative livelihoods; and
- e) take appropriate measures to create domestic market conditions and incentives, fiscal or otherwise, conducive to the development, transfer, acquisition and adaptation of suitable technology, knowledge, know-how and practices, including measures to ensure adequate and effective protection of intellectual property rights.

2. The Parties shall, according to their respective capabilities, and subject to their respective national legislation and/or policies, protect, promote and use in particular relevant traditional and local technology, knowledge, know-how and practices and, to that end, they undertake to:

- a) make inventories of such technology, knowledge, know-how and practices and their potential uses with the participation of local populations, and disseminate such information, where appropriate, in cooperation with relevant intergovernmental and non-governmental organizations;
- b) ensure that such technology, knowledge, know-how and practices are adequately protected and that local populations benefit directly, on an equitable basis and as mutually agreed, from any commercial utilization of them or from any technological development derived therefrom;
- c) encourage and actively support the improvement and dissemination of such technology, knowledge, know-how and practices or of the development of new technology based on them; and
- d) facilitate, as appropriate, the adaptation of such technology, knowledge, know-how and practices to wide use and integrate them with modern technology, as appropriate.

Section 3

Supporting measures

Article 19

Capacity building, education and public awareness

1. The Parties recognize the significance of capacity building - that is to say, institution building, training and development of relevant local and national capacities - in efforts to combat desertification and mitigate the effects of drought. They shall promote, as appropriate, capacity - building:

- a) through the full participation at all levels of local people, particularly at the local level, especially women and youth, with the cooperation of non-governmental and local organizations;
- b) by strengthening training and research capacity at the national level in the field of desertification and drought;
- c) by establishing and/or strengthening support and extension services to disseminate relevant technology methods and techniques more effectively, and by training field agents and members of rural organizations in participatory approaches for the conservation and sustainable use of natural resources;
- d) by fostering the use and dissemination of the knowledge, know-how and practices of local people in technical cooperation programmes, wherever possible;
- e) by adapting, where necessary, relevant environmentally sound technology and traditional methods of agriculture and pastoralism to modern socio-economic conditions;
- f) by providing appropriate training and technology in the use of alternative energy sources, particularly renewable energy resources, aimed particularly at reducing dependence on wood for fuel;
- g) through cooperation, as mutually agreed, to strengthen the capacity of affected developing country Parties to develop and implement programmes in the field of collection, analysis and exchange of information pursuant to article 16;
- h) through innovative ways of promoting alternative livelihoods, including training in new skills;
- i) by training of decision makers, managers, and personnel who are responsible for the collection and analysis of data for the dissemination and use of early warning information on drought conditions and for food production;
- j) through more effective operation of existing national institutions and legal frameworks and, where necessary, creation of new ones, along with strengthening of strategic planning and management; and
- k) by means of exchange visitor programmes to enhance capacity building in affected country Parties through a long-term, interactive process of learning and study.

2. Affected developing country Parties shall conduct, in cooperation with other Parties and competent intergovernmental and non-governmental organizations, as appropriate, an interdisciplinary review of available capacity and facilities at the local and national levels, and the potential for strengthening them.

3. The Parties shall cooperate with each other and through competent intergovernmental organizations, as well as with non-governmental organizations, in undertaking and supporting public awareness and educational programmes in both affected and, where relevant, unaffected country Parties to promote understanding of the causes and effects of desertification and drought and of the importance of meeting the objective of the UNCCD. To that end, they shall:

- a) organize awareness campaigns for the general public;
- b) promote, on a permanent basis, access by the public to relevant information, and wide public participation in education and awareness activities;
- c) encourage the establishment of associations that contribute to public awareness;
- d) develop and exchange educational and public awareness material, where possible in local languages, exchange and second experts to train personnel of affected developing country Parties in carrying out relevant education and awareness programmes, and fully utilize relevant educational material available in competent international bodies;
- e) assess educational needs in affected areas, elaborate appropriate school curricula and expand, as needed, educational and adult literacy programmes and opportunities for all, in particular for girls and women, on the identification, conservation and sustainable use and management of the natural resources of affected areas; and
- f) develop interdisciplinary participatory programmes integrating desertification and drought awareness into educational systems and in non-formal, adult, distance and practical educational programmes.

4. The Conference of the Parties shall establish and/or strengthen networks of regional education and training centres to combat desertification and mitigate the effects of drought. These networks shall be coordinated by an institution created or designated for that purpose, in order to train scientific, technical and management personnel and to strengthen existing institutions responsible for education and training in affected country Parties, where appropriate, with a view to harmonizing programmes and to organizing exchanges of experience among them. These networks shall cooperate closely with relevant intergovernmental and non-governmental organizations to avoid duplication of effort.

2.1 Plan of Implementation

Plan of Implementation adopted at the Summit on sustainable development (WSSD, Johannesburg, 2002) specifies fundamental principles and the programme of action for achieving sustainable development. Desertification and land degradation issues are subject of the following parts of the plan of implementation:

The introduction i.e. comprises the statement, that poverty eradication, changing unsustainable patterns of production and consumption, and protecting and managing the natural resource base of economic and social development are overarching objectives of, and essential requirements for, sustainable development.

Poverty eradication

The relevant articles of the UNCCD are mentioned in the following text:

7. Eradicating poverty is the greatest global challenge facing the world today and an indispensable requirement for sustainable development, particularly for developing countries. While each country has primary responsibility for its own sustainable development and poverty eradication, and while the role of national policies and development strategies cannot be overemphasized, concerted and concrete measures are required at all levels to enable developing countries to achieve their sustainable development goals as related to the internationally agreed poverty-related targets and goals. This would include actions at all levels to:

- a) Halve, by the year 2015, the proportion of the world's people whose income is less than \$1 a day and the proportion of people who suffer from hunger and, by the same date, to halve the proportion of people without access to safe drinking water;
- d) Promote women's equal access to and full participation, on the basis of equality with men, in decision-making at all levels, mainstreaming gender perspectives in all policies and strategies, eliminating all forms of violence and discrimination against women, and improving the status, health and economic welfare of women and girls through full and equal access to economic opportunity, land, credit, education and health care services;
- f) Deliver basic health services for all and reduce environmental health threats, ...
- h) Provide access to agricultural resources for people living in poverty, especially women and indigenous communities, ...
- j) Transfer basic sustainable agricultural techniques and knowledge, including natural resource management, to small and medium-scale farmers, fishers and the rural poor, especially in developing countries, ...

l) Combat desertification and mitigate the effects of drought and floods through such measures as improved use of climate and weather information and forecasts, early warning systems, land and natural resource management, agricultural practices and ecosystem conservation in order to reverse current trends and minimize degradation of land and water resources, including through the provision of adequate and predictable financial resources to implement the UNCCD as one of the tools for poverty eradication.

8. Safeguarding of safe drinking water quality and corresponding sanitation is essential precondition for the protection of human health and the environment.

Changing unsustainable patterns of production and consumption

All countries should promote sustainable consumption and production patterns, with the developed countries taking the lead

15. All countries should take action, with developed countries taking the lead, taking into account the development needs and capabilities of developing countries, through, *inter alia*, mobilisation, from all sources, of financial and technical assistance and capacity building for developing countries with financial, technical and other assistance for developing countries. This would include actions at all levels to:

22. Prevent and minimize waste and maximize reuse, recycling and use of environmentally friendly alternative materials, with the participation of government authorities and all stakeholders, in order to minimise adverse effects on the environment and improve natural resource use efficiency,

b) Promote waste prevention and minimization by encouraging production of reusable consumer goods and biodegradable products and developing the infrastructure required

23. Renew the commitment stated in Agenda 21 to sound management of chemicals throughout their life cycle and of hazardous wastes.

Protecting and managing the natural resource base of economic and social development

25. Launch a programme of actions, with financial and technical assistance, to achieve the Millennium Declaration goal to halve, by the year 2015, the proportion of people who are unable to reach, or to afford, safe drinking water

f) Support, where appropriate, efforts and programmes for energy efficient, sustainable and cost-effective desalination of seawater, water recycling and water harvesting from coastal fogs in developing countries, through measures such as technological, technical and financial assistance and other modalities;

m) Increase one word redevelopment in developed countries and countries with economies in transition, with appropriate technical assistance where contamination is a serious problem;

o) Promote programmes for the environmentally sound, effective and efficient use of soil fertility improvement practices and agricultural pest control,

41. Strengthen the implementation of the UNCCD to address causes of desertification and land degradation in order to maintain and restore land, and to address poverty resulting from land degradation. This would include actions at all levels to:

- a) Mobilize adequate and predictable financial resources, transfer of technologies and capacity-building at all levels;
- b) Formulate national action programmes to ensure timely and effective implementation of the UNCCD and its related projects, with the support of the international community, including through decentralized projects at the local level;
- c) Encourage the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity and the UNCCD to continue exploring and enhancing synergies, with due regard to their respective mandates, in the elaboration and implementation of plans and strategies under the respective conventions;
- d) Integrate measures to prevent and combat desertification as well as to mitigate the effects of drought through relevant policies and programmes, such as land, water and forest management, agriculture, rural development, early warning systems, environment, energy, natural resources, health and education, and poverty eradication and sustainable development strategies;
- e) Provide affordable local access to information to improve monitoring and early warning related to desertification and drought;
- f) Call on the Second Assembly of the Global Environment Facility (GEF) to take action on the recommendations of the GEF Council concerning the designation of land degradation (desertification and deforestation) as a focal area of GEF as a means of GEF support for the successful implementation of the UNCCD; and consequently consider making GEF a financial mechanism of the United Nations Convention to Combat Desertification, taking into account the prerogatives and decisions of the Conference of the Parties to the Convention, while recognising the complementary roles of the GEF and the Global Mechanism of the UNCCD in providing and mobilising resources for the elaboration and implementation of action programmes,

46. Mining, minerals and metals are important to the economic and social development of many countries. Minerals are essential for modern living. Enhancing the contribution of mining, minerals and metals to sustainable development includes actions at all levels to:

- c) Foster sustainable mining practices through provision of financial, technical and capacity building support to developing countries and countries with economies in transition for the mining and processing of minerals including small scale mining, ...

Health and sustainable development

53. There is an urgent need to address the causes of ill health, including environmental, and their impact on development, with particular emphasis on women and children, as well as vulnerable groups of society, such as people with disabilities, elderly persons and indigenous people.

54. Strengthen the capacity of health care systems to deliver basic health services to all in an efficient, accessible and affordable manner,

Sustainable Development for Africa

62. Since the Rio conference, sustainable development has remained elusive for many African countries. Poverty remains a major challenge and most countries on the continent have not benefited fully from the opportunities of globalization, further exacerbating the continent's marginalization. Africa's efforts to achieve sustainable development have been hindered by: conflicts, insufficient investment, limited benefits from trade, unsustainable debt burden, [historically declining ODA flows] and the impact of HIV/AIDS. The WSSD should reinvestigate the commitment of the international community to address these special challenges and

give effect to a new vision based on concrete actions for the implementation of Agenda 21 in Africa. The New Partnership for Africa's Development (NEPAD) is a commitment by African leaders, to the people of Africa. ... Achieving sustainable development includes actions at all levels to:

- Promote technology development, transfer and diffusion to Africa and further develop technology and knowledge available in African centers of excellence;
- Provide assistance to African countries with mobilizing adequate resources to;
- Aid their adaptation needs relating to climate change, extreme weather events, sea level rise, climate variability and to assist them with development of national strategy and to take action to prevent climate change in Africa and programs to mitigate consequences, consistent with commitments under the UNFCCC;
- Provide financial and technical support for afforestation and reforestation in Africa and to build capacity for sustainable forest management, including combating deforestation and measures to improve the policy and legal framework of the forest sector.

63. Provide financial and technical support for Africa's efforts to implement the UNCCD at the national level and integrate indigenous knowledge systems into land and natural resources management practices, as appropriate, and improve extension services to rural communities and promote better land and watershed management practices, including through improved agricultural practices that address land degradation, in order to develop capacity for implementation of national programmes.

64. Mobilize financial and other support to develop and strengthen health systems.

66. Promote integrated water resources development and optimize the upstream and downstream benefits therefrom and the development and effective management of water resources across all uses and the protection of water quality and aquatic ecosystems, including through initiatives at all levels, to:

- a) Provide access to potable domestic water, hygiene education and improved sanitation and waste management,
- d) Protect water resources, including groundwater and wetland ecosystems against pollution,

67. Achieve significantly improved sustainable agricultural productivity and food security in furtherance of the agreed Millennium Development Goals, including those contained in the Millennium Declaration, in particular to halve by 2015 the proportion of people who suffer from hunger, including through initiatives at all levels to:

- c) Improve market access for goods, including ones originating from African countries, and in particular from the least development countries (LDCs)

Other Regional Initiatives

D. Sustainable Development in the UN ECE Region

79. The UN ECE Regional Ministerial Meeting for the World Summit on Sustainable Development recognized that the Region has a major role to play and responsibilities in global efforts to achieve sustainable development by concrete actions.

80. In furtherance of the Region's commitment to sustainable development, there are ongoing efforts at the regional and sub-regional, and transregional levels. These include, *inter alia* the "Environment for Europe" process.

81. The implementation of Agenda 21 and the achievement of the internationally agreed development goals, including those contained in the Millennium Declaration as well as in this plan of action requires a substantially increased effort, both by countries themselves and by the rest of the international community.

“States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth’s ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.”

The internationally agreed development goals, including those contained in the Millennium Declaration and Agenda 21, as well as in the present plan of action, will require significant increases in the flow of financial resources.

82. Mobilizing and increasing the effective use of financial resources and achieving the national and international economic conditions.

83. In our common pursuit of growth, poverty eradication and sustainable development, a critical challenge is to ensure the necessary internal conditions for mobilizing domestic savings, both public and private, sustaining adequate levels of productive investment and increasing human capacity.

85. Recognize that a substantial increase in official development assistance and other resources will be required to enhance aid effectiveness, with actions to:

- a) Urge the developed countries that have not done so to make concrete efforts to reach the UN goal of 0.7 per cent of gross national product (GNP) as official development assistance (ODA) to developing countries,
- b) Encourage recipient and donor countries, as well as international institutions, to make ODA more efficient and effective for poverty eradication, sustained economic growth and sustainable development.

97. Continue to enhance the mutual supportiveness of trade, social and economic development and environmental protection to achieve a sustainable development.

100. Address public health problems affecting many developing and least developed countries, especially those resulting from HIV/AIDS, tuberculosis, malaria and other epidemics.

105. Promote, facilitate, and finance, as appropriate, access to, and the development, transfer and diffusion of, environmentally sound technologies and corresponding know-how, in particular to developing countries as well as countries with economies in transition.

106. Improve the transfer of technologies to developing countries, in particular at the bilateral and regional levels, including through actions at all levels to: ..

...Improve interaction and collaboration, stakeholder relationships and networks between and among universities, research institutions, government agencies and the private sector;

107. Assist developing countries in building capacity to access a larger share of multilateral and global research and development programmes. In this regard, strengthen and, where appropriate, create centres for sustainable development in developing countries.

108. Build greater capacity in science and technology for sustainable development, with action to improve collaboration and partnerships on research and development and their widespread application among research institutions, universities, the private sector, governments, NGOs, and networks, as well as between and among scientists and academics of developing and developed countries, and in this regard, encourage networking with and between centres of scientific excellence in developing countries.

109. Improve policy and decision-making at all levels through, *inter alia*, improved collaboration between natural and social scientists, and between scientists and policy makers,

110. Assist developing countries, through international cooperation, to enhance their capacity in their efforts to address issues pertaining to environmental protection including in their formulation and implementation of policies for environmental management and protection.

111. Establish regular channels between policy makers and the scientific community.

116. Education is critical for promoting sustainable development. It is therefore essential to mobilize necessary resources, including financial resources at all levels, by bilateral and multilateral donors, including the World Bank and the regional development banks, by civil society and by foundations, to complement the efforts by national governments to pursue the following goals and actions:

a) Meet the development goal in the Millennium Declaration of achieving universal primary education, ensuring that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling;

b) Provide all children, particularly those living in rural areas and those living in poverty, especially girls, with the access and opportunity to complete a full course of primary education;

125. Enhance and accelerate human, institutional and infrastructure capacity-building initiatives and promote partnerships in this regard that will flexibly respond to the specific needs of developing countries in the context of sustainable development.

126. Support local, national, sub-regional and regional initiatives, with action to develop, use and adapt knowledge and techniques and to enhance local, national, sub-regional and regional centres of excellence for education, research and training.

Strengthening institutional frameworks for sustainable development at the national level

137. Efficient institutional arrangements framework for sustainable development is crucial for the full implementation of Agenda 21 and of the outcomes of the World Summit on Sustainable Development and for addressing of new challenges of sustainable development.

159. Intra-regional coordination and cooperation on sustainable development issues in the region should be improved among the regional commissions, United Nations Funds, Programmes and Agencies, regional development banks, and other regional and sub-regional institutions and bodies.

162. States should: ...

b) Take immediate steps to make progress for the formulation and elaboration of national strategies for sustainable development. Such strategies, which where applicable, could be formulated as poverty reduction strategies, which integrate economic, social and environmental aspects of sustainable development, should be pursued in accordance with each country's national priorities.

164. All countries should also promote full public participation in sustainable development policy development and implementation.

168. Enhance partnerships between governmental and non-governmental actors, including all major groups as well as volunteer groups, on programmes and activities for the achievement of sustainable development at all levels.

170. Promote and support youth participation in programs and activities relating to sustainable development.

3 Initial state of affairs in the Czech Republic

The Czech Republic acknowledges that it is not a country affected by desertification according to the definition set forth in Article 1 of the UNCCD and, therefore, it is not obliged to draw up a national action program pursuant to Art. 9 to 15 of the UNCCD and pursuant to Art. 3, 4 and 5 of Annex V of the UNCCD.

The Czech Republic has also acceded to the fifth regional Annex to the UNCCD for Central and Eastern Europe (full text Annex 2), which came into force on September 6, 2001 and provides guidelines and arrangements for the effective implementation of the Convention in affected country Parties of the Central and Eastern European region and promotes subregional collaboration between affected and unaffected country Parties of the region.

3.1 Assistance of the Czech Republic to countries experiencing drought and/or desertification

3.1.1 Legislative framework

Accession of the CR to the UNCCD is published in Act No. 53/2002 Coll., on the UN Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa.

International cooperation is performed mainly in the form of Official Development Assistance (ODA), which is governed by the new Principles of official Developmental Assistance (after accession of the CR to the EU). These principles were approved by the Government through its Resolution No. 320 of March 31, 2004. The main objective of official developmental assistance is to alleviate poverty in developing countries, as well as to build capacity for acceptance of the assistance, to respect the tradition of official developmental assistance, and sustainable development with emphasis on the environment. Eight priority countries have been selected for long-term developmental assistance: Angola, Bosnia and Herzegovina, Yemen, Moldavia, Mongolia, Serbia and Montenegro, Vietnam and Zambia.

3.1.2 Czech institutions responsible for assistance

The Ministry of the Environment of the Czech Republic is responsible for implementation of the UNCCD and, in doing so, it cooperates with other relevant ministries and stakeholders. After accession of the CR to the EU, the Ministry of Foreign Affairs continues to be the coordinating body for ODA pursuant to the newly approved principles (No. 40/2004 Coll.). A sector of the Ministry of the Environment is responsible for the implementation of ODA projects in the field of the environment and for Combating desertification.

3.1.3 Representation and activities of the Czech Republic in the bodies of the UNCCD

The CR regularly participates in meetings of the supreme body of the UNCCD – the Conference of Parties (COP). Representatives of the CR have been elected to the governing structure of the COP several times

(*inter alia*, at the 4th and 5th meetings of the COP). In addition, the CR is represented in the Committee to Review Implementation of the UNCCD (CRIC).

The CR also regularly sends its representatives to meetings of the Committee of Science and Technology (CST) which has been established by the COP as a supporting body and which meets concurrently with the meetings of the COP.

The CR is also represented in the 25-member Group of Experts (GoE) which has been appointed by the CST on the basis of Decision 17/COP 5 and which has been entrusted by the CST to draw up regular summaries of new findings on desertification and of their potential application in combating desertification.

3.1.4 Forms of assistance

To date, official developmental assistance has concentrated particularly on the following areas:

- a) alleviation of poverty in less developed parts of the world by means of sustainable socio-economic development, with emphasis on its environmental component;
- b) assistance is provided primarily in areas where the Czech Republic can offer its experience, such as health care, education, energy production and selected environmental aspects, with respect to the initiatives and recommendations of the European Union and OECD;
- c) technical assistance (consultancy, know-how) constitutes an important part of official developmental assistance, as it fully corresponds with the partnership principle;
- d) in accordance with the partnership principle, assistance is motivated by requirements of the beneficiary, rather than the offers of the provider;
- e) financial contributions to the fund of the UNCCD.

The Czech Republic belongs among transition countries; however, it is becoming increasingly involved in official developmental assistance as a donor (emerging donor country). Annually, the CR allocates 0.11 % of its gross national product for official developmental assistance (the estimate for 2010 is 0.17 %). While this is the highest ratio among the new EU Member States, the Czech official developmental assistance is well under 0.33 % of the gross domestic product which was set as the minimum level by the EU in 2002.

3.1.4.1 Bilateral and multilateral assistance

A number of projects have been and are being implemented in the framework of official developmental assistance; however, a number of other activities are also financed from the resources of universities and research institutes and, to a lesser degree, by private companies or non-governmental organizations (Annex 3).

Projects have been or are concerned, particularly, with hydrogeology (Burkina Faso, Ethiopia, Mongolia), land degradation (Mongolia, Uzbekistan), afforestation (Uganda, Tasmania, Angola, Namibia, Mali, Ethiopia), landscape ecology (Ghana, Macedonia, Mongolia, Kenya, Tasmania, Uganda), and training of experts (Namibia, Mali).

Parties implementing the projects can be classified as follows:

Implementing party: Ministries, governmental organizations

A majority of implemented projects were or are paid from the funds allocated for official developmental assistance, under the coordination of the Ministry of Foreign Affairs. The Ministry cooperates with other ministries that are responsible for projects in the field of their competence. The aforementioned projects are

mostly guaranteed by the Ministry of the Environment, and also by the Ministry of Agriculture and the Ministry of Industry and Trade. Intersectoral projects are also being newly prepared. Other projects are implemented in the framework of international cooperation and in collaboration with international organizations.

Implementing party: Czech universities

A number of activities in developing countries are also being pursued by universities which often cover these activities from their own resources, grants or within research tasks, or they cooperate with the competent ministries (Annex 3) in the framework of official developmental assistance. Universities active in the area of desertification and land degradation include, particularly, the Czech University of Agriculture in Prague (Institute of Tropical and Subtropical Agriculture, Faculty of Agronomy) which cooperates with developing countries in the area of promotion of sustainable agriculture. The Mendel University of Agriculture and Forestry in Brno is also concerned with the issues of forest management; international projects of Charles University (Faculty of Science) concentrate on soil science and hydrology.

Implementing party: Private sector

A number of official developmental assistance projects are implemented by private companies, which have been active in areas affected by desertification for a number of years. These companies include, particularly, AQUATEST a.s., Aquatis a.s. Brno, Geomin Jihlava, Geotest Brno, Enki, o.p.s. beneficiary society, and others. The work of Czech private geological companies, as well as State research institutes, which are active throughout the world, is generally acknowledged. In recent years, hydrogeological work has been performed mainly in Mongolia, as well as in some African countries (Annex 3).

Implementing party: NGOs

A number of non-governmental organizations are active in arid areas. In the past, e.g., the Union for Nature Conservation and Landscape Protection (a TIS organization) organized six expeditions to the Sahara area in 1967 to 1975. The expeditions resulted, inter alia, in the promulgation of the Tassili National Park; making a film on the nature of the Sahara, which won an award at the Carthage festival; drawing up and provision of methodology of propagating *Cupressus dupreziana*, which was endangered by extinction; publication of a Czech-French picture publication "Stopy v písku – Traces sur le sable" (Traces in the sand); and valuable new findings on Saharan fauna, particularly in the area of entomology and ichthyology (from poorly accessible relict waters in the middle of the Sahara).

At present, especially three Czech non-profit organizations are active in countries affected by desertification: Člověk v tísní (People in Need), a society associated with Czech Television, ADRA and the Czech Catholic Charity (Annex 3). In autumn 2004, Člověk v tísní finished the construction of a new, 240 meter-deep drilled well in the Alaba district in the south of Ethiopia in the framework of ODA granted by the ME. The well now ensures supplies of good-quality drinking water for approx. 10 thous. inhabitants.

The Human Support Campaign is an international project of the Humanist Movement. People from Europe and Africa strive to create a chain of mutual assistance to find solutions to the problem of satisfying basic human needs in some African countries. The NAROVINU Humanist Center is involved in projects in Kenya (Free Literacy Courses, Cooperation with Schools, Courses in Crafts, Agricultural Projects).

3.1.4.2 Preparation of experts, courses, seminars

In the framework of inter-governmental agreements, the Czech Republic (MEYS, MFA) provides both short-term (1 month to 1 year) and comprehensive education (leading to Bachelors, Masters, Doctors degrees) to students from a number of developing countries, including countries experiencing drought and/or desertification. The number of students admitted from abroad is governed by Government Resolutions No. 2/94 Coll., No. 356/96 Coll. and No. 733/2001 Coll. Each year, 300 students are accepted for short-term studies and 250 students are admitted for comprehensive university studies. Of this number, approximately one third are students from countries affected by desertification, especially from Africa and the Middle East. An amount of CZK 125 million is allocated annually for studies by foreign students.

For several years, Palacký University has been organizing a school of developmental assistance in cooperation with the Ministry of Foreign Affairs and UNDP.

The Faculty of Science of the Palacký University in Olomouc provides an accredited Bachelors study program entitled International Developmental Studies, the first graduates of which will complete study in 2006. Approximately 30 students enroll each year. An application for accreditation of the follow-up Masters study is currently pending approval.

International Developmental Studies are a three-year Bachelors study program, completed by the defense of a thesis and a Bachelors examination. The International Developmental Studies Bachelors program provides a comprehensive complex of knowledge concerning the regional geography of the Third World countries (developing countries), supplemented by additional geographic subjects (physical geography, socio-economic geography, cartography, etc.). Students undertake courses in ecology and environmental issues. Considerable attention is also paid to mastering at least two international languages. Within a limited scope, the students learn basic socio-scientific subjects, which enable better orientation in programs of developmental and humanitarian assistance (the basics of diplomacy, developmental economy in the context of the global economy, the subject of travel medicine and prevention in tropical areas, etc.).

After successful defense of the Bachelors thesis and passing the Bachelors examination, students can continue their study in the follow-up Masters study program or in related fields of study (e.g. geography, protection and creation of the environment). A graduate of the Bachelors study in the area of International Developmental Studies will be fully qualified for work in institutions participating in programs of Czech developmental assistance and cooperation. They may be employed in both governmental and non-governmental institutions concerned with developmental and humanitarian assistance. Career opportunities are also offered by the business sphere, where companies pursuing business or trading with developing countries lack experts with good knowledge of these regions.

The Faculty of Agronomy of the Mendel University of Agriculture and Forestry is currently preparing for accreditation a new field of Masters studies entitled "Agriculture in Arid Areas" which aims at preparation of Czech and foreign students for sustainable management of areas experiencing drought.

The Czech Republic organized the 7th Seminar on Cleaner Production in Prague on April 29 to 30, 2002. The cleaner production principles are aimed at comprehensive solution of complex environmental issues and contribute to improvement of the quality of human life. The objective of cleaner production projects is to improve the environment in developing countries. While these projects are not primarily concentrated on the aspect of desertification, management of resources and improvement of water quality constitute important part of the projects.

In the period from July 26 to August 2, 2003, the ME CR organized a workshop entitled "Preparation of Projects in the Area of Land Degradation", in cooperation with UNCCD, UNDP and the Mendel University of Agriculture and Forestry in Brno. Applications for projects were drawn up at the workshop by participants from Moldavia, Georgia, Romania and Slovakia under the supervision of experts from UNDP.

3.1.5 Volume of expended funds

Since 2000, the Czech Republic has been regularly paying contributions to the funds of the UNCCD. These contributions equaled a total of USD 88,000 in the 2000-2005 period (2000 - 6,0070; 2001 - 16,000; 2002 - 20,000; 2003 - 15,000; 2004 - 16,000; 2005 - 15,000).

Since 1998, the Czech Republic has expended a total of CZK 709.3 mil. (approx. USD 29.6 mil) for implementation or co-implementation of projects in countries affected by desertification; 13 projects subsidized by an amount of CZK 40.2 mil. have already been successfully completed and 43 projects with a value of CZK 669.1 mil. are under way (Annex 3).

3.1.6 Capacity building

Individual capacity

Experts dealing with the soil environment are associated in the CR in a number of scientific societies. These include, particularly, the Czech Society of Soil Science (over 100 members), Czechoslovak Society for Microbiology (the Section of Microbiology of the Environment) and the Czech Zoological Society. A number of Czech soil scientists are organized in the Department of Soil Science of the Czech Academy of Agricultural Sciences (34 members). Available databases of members (Annex 4.3.A a B).

Institucional capacity

A number of Czech research and scientific workplaces, private companies, universities and non-governmental organizations are currently involved in the performance of obligations under the UNCCD (Annex 3).

Private companies (primarily Geomin Jihlava a.s., Enki o.p.s., Aquatis a.s., VHS Brno a.s., AQUATEST a.s.) provide for a majority of both completed and pending projects; some projects are also implemented by scientific institutes and universities (*inter alia*, the Czech Hydrometeorological Institute, Czech University of Agriculture), as well as non-governmental organizations (Člověk v tísni o.p.s.).

In countries affected by drought, the aforementioned institutions use and apply knowledge obtained in the institutes of the Academy of Sciences of the CR (Institute of Botany, Institute of Landscape Ecology, Institute of Microbiology, Institute of Soil Biology), in ministerial institutes (Plant Production Research Institute, Research Institute of Ameliorations and Soil Conservation) and at university workplaces of Charles University in Prague, South Bohemian University in České Budějovice, Mendel University of Agriculture and Forestry).

Training of experts in dealing with the issues of landscape degradation, land degradation, protection and creation of the environment, and sustainable agriculture and forestry is provided primarily by the following Czech universities (and parts thereof):

Charles University in Prague (Faculty of Science), Czech University of Agriculture (Institute of Tropical and Subtropical Agriculture, Faculty of Agronomy), Masaryk University in Brno (Faculty of Science, Research Center for Environmental Chemistry and Ecotoxicology), Mendel University of Agriculture and Forestry in Brno (Faculties of Agronomy and Forestry) (Annex 6.2).

System capacity

The Ministry of the Environment of the Czech Republic is responsible for implementation of the UNCCD in the CR, in cooperation with other ministries and both international and national stakeholders. The aforementioned activities are directed by the Department of Environmental Policy and Multilateral Relations (Section of Strategic Legislation), which has also established the focal point for desertification and manages the activities of the "Group of Persons Interested in Desertification" (Annex 6).

Ministry of the Environment

Section of Strategic Legislation

Director of the Section, JUDr. Jan Dusík, M.Sc.

- Department of Environmental Policy and Multilateral Relations

Director of the Department: JUDr. Jiří Hlaváček

Focal point for desertification: Mgr. Ivana Biková

The representatives of the ME are in close contact with the Secretariat of the UNCCD and regularly attend meetings of its bodies (COP, CST, CRIC).

A number of official developmental assistance projects in countries experiencing drought and/or desertification are implemented besides the ME also by the MPO, MEYS, MA, MFA and MA; these include projects of both governmental and non-governmental organizations.

3.2 Manifestations of drought in the Czech Republic

The Czech Republic does not belong among countries that are directly endangered by desertification (Annex 1). However, in accordance with the definition of desertification, Annex V to the UNCCD (Annex 3) and the EU strategy concerning soil protection in the EU countries and accession countries (see the EU Commission materials, COM 2002, 179 final), the degree of degradation of the land and the landscape in the CR should be assessed in relation to drought.

3.2.1 Meteorological drought

In the previous century, the air temperature increased in the CR - similar to in Europe - by 0.7 °C. The nine warmest years since measurement was commenced, i.e. since 1860, have been recorded during the last ten years. The frequency of occasional meteorological drought has increased; drought means the naturally occurring phenomenon that exists when precipitation is significantly below normal recorded levels, causing

serious hydrological imbalances that adversely affect land resource production systems (see the UNCCD). On the basis of expert reports of the Research Institute of Ameliorations and Soil Conservation in Zbraslav of 2002, drought currently affects approx. 20 % of the territory of the CR. Localities with lower altitude and extremely light or heavy soils are most affected.

3.2.2 Degradation of the land and the landscape

3.2.2.1 Current conditions

The current state of degradation of the land and the landscape is characterized (Annex 4.A) in the study. It follows from this study that a total of 36 % of the area of land in the CR can be classified in the category of vulnerable; for agricultural land, this ratio equals 44 % (evaluation of vulnerability is based, particularly, on the flows of nitrogen entering the ecosystems).

Land in the CR is affected primarily by erosion, compaction, acidification, reduction of biological diversity and, in certain areas, contamination by hazardous elements and compounds. Approximately 42 % of agriculturally utilized land in the CR is affected by water erosion and 7.5 % by wind erosion. Soil compaction is increasing and currently affects 40 to 50 % of the total area of agricultural land. Opinions on the contents of soil organic matter vary. According to information provided by the Czech Environmental Institute (2003), the contents of organic matter should equal 2.0 – 2.5 %, but the average value in the CR is only 1.5 % (Annex 4).

Contamination of agriculturally utilized land in the CR is monitored by the Central Agricultural Control and Testing Institute (Act No. 156/2000 Coll.). Results obtained to-date demonstrate that contamination of soil by inorganic and organic pollutants is very low and that hygienic limits are seldom exceeded (e.g., for Cd, on 1 % of the overall land area).

The quality of soils is regulated, to a substantial degree, by the edaphon, i.e. microorganisms and animals in the soil. Changes in the functional and species diversity of the edaphon are used for rapid indication of unfavorable changes in the soil environment. More extensive and prolonged utilization of the characteristics of the edaphon to monitor land degradation is, however, limited by methodical (and financial) aspects.

Problems related to land degradation in the territory of the Czech Republic occur to an extent comparable to neighboring countries which are members of the European Union (Austria, Germany, Slovakia, Poland).

3.2.2.2 Delimitation of endangered areas

In the past, the individual types of land degradation were evaluated by specialized workplaces in the framework of a number of research tasks. Information on land degradation has been evaluated from a comprehensive viewpoint for the purposes of this study. The individual types of land degradation were divided to three groups:

- physical degradation
- chemical degradation
- desertification

The following types of degradation were then classified in these groups: water erosion, wind erosion, compacted soils, extremely heavy soils, dehumification, acidification, drying soils, intoxication by potential risk elements.

Maps of potential dangers were drawn up for the aforementioned groups of degradation using the overlapping method and on the basis of assignment of weights to the individual types of degradation within the ArcView GIS system. The relevance of the individual types of degradation was taken into account in the weighing process, where the highest weight was assigned to water erosion, affecting approx. 42 % of agricultural land and also being the most important degradation factor from the global viewpoint. Drying soils constitute approx. 1.5 % of the agricultural land of the Czech Republic and they were assigned an average weight. The resulting map of potential danger of land degradation in the Czech Republic ([Annex 4.B](#)) was compiled on the basis of the three individual maps (partial groups). The results indicate that the most endangered areas include localities in Southern Moravia and Central to South-Western Bohemia, i.e. areas that:

1. are not included in LFA; i.e. these areas belong among more productive areas of the country;
2. also include drying soils and soils endangered by dehumification.

The level of degradation can be reduced by soil-protection technologies in agriculture, and can also be expressed by assignment of weights in areas with special protection (national parks, protected landscape areas, NATURA 2000 sites). However, this evaluation will not affect the results in the areas of Southern Moravia and Central and South-Western Bohemia where degradation problems are indicated in the maps.

3.2.2.3 Qualified forecast of degradation of arable land

A detailed survey of selected arable land in Central Moravia performed in 2001-2003 provides evidence for the early degradation of the most productive, agriculturally intensively utilized land (Pokorný, Denešová, 2005). This study evaluated the physical, chemical and biological characteristics of 144 properties in Central Moravia. The properties were selected according to the most common types of land in the area of interest (particularly, black soil, brown soil, luvisoil and fluvisoil).

The following findings can be considered to be the most important: ([Annex 4.C](#))

- with respect to the physical properties of soil, the most substantial problem is the unsuitable pore distribution, with a predominance of non-capillary pores. This results in a very low minimum soil air content value (5.5 %). This environment lacks adequate soil air, a hypoxic environment is created and oxygen becomes the limiting factor for the growth of the cultivated plants. An unfavorable combination of high bulk density and maximum capillary capacity is created, indicating permanent soil fertility defects, which cannot be remedied by normal agritechnical procedures, but require modification of the chemical properties;
- with respect to the chemical properties, the most important aspect can be considered to be the low humus quality, measured on the basis of the ratio of humic acids to fulvic acids. The average HA : FA value is 0.63. The low humus quality indicates poor synthesis of high-molecular weight organic substances of the humic acid type. This finding can be explained by the unsuitable structure of the agricultural system, especially the imbalance between carbon sources and consumers, caused by the low numbers of farmed polygastric animals, lack of carbon sources in sowing procedures, and use of cereal straw as an organic fertilizer. The low content of replacement magnesium in the sorption complex (only 10 %) can also be considered to be an important finding.
- with respect to biological properties, respiration tests have indicated a slight reduction of basal respiration, with an average value of 0.71 mg CO₂ per 100g/hour. The soil contains a higher content of easily degradable organic substances. Tests have shown that important negative changes in the biological properties of soils have occurred during the last 50 years.

3.2.3 Legislation

A number of laws and decrees concerning the conservation of soil, water and the landscape have recently entered into effect in the CR, in full accordance with the EU legislation ([Annex 5](#)).

4.1 Key requirements for more effective fulfillment of international obligations of the Czech Republic following from the UNCCD and the Plan of Implementation

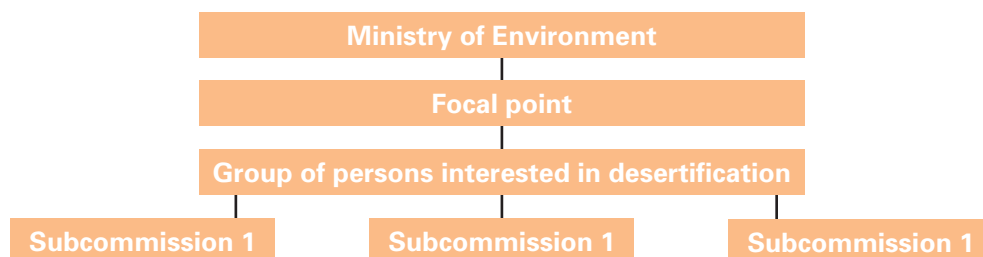
4.1.1 Systemic level

Improvement of organizational structure

A legislative framework for the performance of obligations under the UNCCD (Act No. 53/2002 Coll.) and the basic organizational structure have been established in the CR. The ME CR (Section of Strategic Legislation) is the authority responsible for fulfillment of the obligations following from the UNCCD; the Ministry has designated the focal point for desertification and directs the activities of the "Group of Persons Interested in Desertification".

Representatives of the ME regularly attend meetings of the bodies of the UNCCD, i.e. the Conference of Parties (COP) and the Committee of Science and Technology (CST) and are in close contact with the Secretariat of the UNCCD.

The existing organizational structure should be completed; in particular, it is necessary to transform the current group of persons interested in desertification to an official commission with equal participation of employees of the ME (and other relevant ministries) and representatives of research institutes, universities and non-governmental organizations, which would have the status of an advisory body and link the activities of the ME with the individual stakeholders. This commission should initiate the appointment of three subcommissions whose activities would concentrate on formulating the strategy of assistance to countries affected by desertification, on educational activities and on public relations (enlightenment).



| | |
|-----------------|---|
| subcommission 1 | formulation of the strategy of assistance to countries affected by desertification in accordance with the priority programs of official developmental assistance which will be formulated by the Government of the CR |
| subcommission 2 | training and education of foreign and domestic experts for activities in countries affected by desertification |
| subcommission 3 | awareness raising, public relations |

Creation of the Clearing House Mechanism to Combat Desertification - CHMCD

Although articles 16 and 19 of the UNCCD emphasize the importance of collection and exchange of information and analyses of the potential forms of combating desertification, little attention is still being paid to this issue, both at the international and at the national level. Nevertheless, readily obtainable information on the issue of drought and desertification could not only accelerate scientific research in this area, but also stimulate the interest of potential donors and of the general public.

The basic idea of CHMCD is to create a clearing house in both the Czech and English languages that would provide for collection and exchange of information on drought and desertification. CHMCD could also promote cooperation among interested countries.

Increase in the amount of funds provided for official developmental assistance (ODA)

Accession of the Czech Republic to the UNCCD was an expression of solidarity with the affected parties and of its willingness to collaborate in addressing global environmental issues. In accordance with the principles of the UNCCD and the Plan of Implementation, the activities of the CR are aimed particularly at alleviating poverty in less developed parts of the world by means of sustainable socio-economic development, with emphasis on its environmental component. Assistance to the affected countries is motivated by the requirements of the beneficiary, rather than by the offers of the provider.

Assistance is being developed in areas where the CR has long experience and that are designated by the UNCCD and the Plan of Implementation as high-priority areas. These areas include, *inter alia*, providing access to safe drinking water, minimizing degradation of land and water resources, introducing appropriate agricultural procedures, protection of ecosystems, sustainable use of natural resources and educational strategies.

The aforementioned assistance is mainly provided in the framework of official developmental assistance (e.g. more than USD 500 000 was made available in 2004 and 2005). Regular contributions to the funds of the Convention equaled almost USD 88 000 in the 2000-2005 period.

Annually, the CR allocates 0.11% GDP for official developmental assistance (the estimate for 2010 is 0.17%). The CR, as a transition country and "emerging donor country", thus remains well below the amount corresponding to 0.33% GDP, which has been set for developmental assistance by the EU and 0.7% GDP which is contemplated for developed countries by the Plan of Implementation (see the text of the Plan of Implementation, Section 85).

Strengthening the role of non-governmental organizations in the ODA system

Non-governmental organizations substantially contribute to ODA; however, their participation in the creation of the ODA principles was limited. This was reflected, *inter alia*, in the selection of the priority countries for ODA. This selection was opposed, e.g., by an association of 22 Czech non-governmental organizations (FODA – Forum for Developmental Assistance); however, their opinions were not taken into account.

4.1.2 Institutional level

The CR should increasingly contribute to the training of experts dealing with issues related to drought and desertification. In the framework of inter-governmental agreements, the CR (MEYS and MFA) annually provides short-term and comprehensive university education to 550 students from developing countries, of which approximately one third are students from countries experiencing drought and desertification. The Tropical and Subtropical Institute under the Czech University of Agriculture in Prague has the longest tradition in the CR in this respect; the recent accreditation of the area “International Developmental Studies” at Palacký University in Olomouc was an important milestone; the Masters study area entitled “Agriculture under Arid Conditions” is being prepared for accreditation at the Mendel University of Agriculture and Forestry in Brno. Practical preparation of experts can be successfully performed directly in the target countries: e.g., in the framework of ODA, the Czech University of Agriculture has established a small farm in Mali as a training center for breeding farm animals; the Faculty of Agronomy of the Mendel University of Agriculture and Forestry in Brno, together with the GEOMIN Jihlava company, following consultation with the representatives of the Ministry of Agriculture of Mongolia, has prepared a project for establishing a training farm specializing in growing vegetables in the Dornogobi region. Similar projects and activities substantially and purposefully interconnect research, educational and application activities. Additional, similar educational programs, involving a larger number of institutions, should be created in the future. (The relevant strategies and programs should be formulated by the ME - see 4.2.1.).

Information on the direct and indirect impacts of drought and desertification on the inhabitants of the affected countries and on the assistance provided to these people by the CR must be disclosed to the representatives of the State administration and the public as rapidly as possible and on a wider scale. This requires implementation of measures on a systemic level (see 4.1.1.).

4.1.3 Individual level

In spite of the large numbers of Czech experts specializing in various aspects of the subject of drought, desertification, land degradation and poverty, only a very few experts are involved in meeting the obligations following from the UNCCD. Greater involvement is dependent primarily on improved awareness on the part of the relevant experts of the subjects of drought and desertification, of the relevant obligations of the CR and of the Plan of Implementation. A clearing house should be created to this end (5.1).

4.2 Key requirements for soil conservation in the Czech Republic

Soil is one of the basic components of the environment. According to the most recent findings, the quality of soil is determined by its ability to fulfill basic functions in the framework of an ecosystem, to sustain biological productivity, to ensure a good environment and to support the health of plants and animals. Thus, the quality of the soil (often designated as the health of the soil) also affects human health. Therefore, soil

conservation belongs among the priorities of every country. Reports on the environment of the Czech Republic, which are annually published by the ME, indicate urgent environmental problems in the CR, including, *inter alia*, high cultivation of agricultural land (72% of agricultural land), a high fraction of land endangered by water erosion (42%) and degradation of forest land (www.env.cz "Report on the Environment of the CR, 2004, Part III.3 "Soil" and Annex IV., State of Land Degradation).

4.2.1 Systemic level

Prepare a national program of soil conservation based on the "European Strategy for Soil Protection". This strategy separates the subject of agricultural production from the land and concentrates on ensuring that the functions of land are not hindered by sectoral interests or unilateral interests of the owners or communities.

Promote a program of comprehensive soil conservation that would take account of all the functions of the soil (see 4.2), including its filtration and decontamination functions.

Additionally integrate the subject of land degradation (and desertification) into the National Research Program for 2007-2012, which would be in accordance with the priorities of science and research promulgated by the Government (June 2005), including, *inter alia*, ecology and healthy foodstuffs.

4.2.2 Institutional level

The subject of land degradation and protection is dealt with, from various viewpoints, by a number of institutions and professionals (Annex 6.2 a 6.3), who obtain the necessary funds from grant agencies or ministries (for a survey of projects concerning the soil environment, implemented in the 2000-2005 period) (Annex 7). The research results are presented annually at the "Days of Soil Science" conferences or conferences organized by the Czech Society for Microbiology ("Life in Soil", "Methods of Study of the Biological Component of Soil"), or special workshops with foreign participants, and are published from time to time in both domestic and foreign scientific journals. Research implemented in the Czech Republic encompasses a majority of the subjects related to soil (types of soil, physical-chemical and biological properties of soil, unfavorable changes in the soil environment caused by human activities and the possibility of remedying thereof, the importance of soil as part of the ecosystem and landscape, with emphasis on its buffering capacity).

- The current state of the soil environment and the degree of land degradation (Annex 4) requires specification of priority issues that need to be addressed. Priorities include reduction of the area of cultivated land and the manner of its further use. Cultivated land represents 72 % of all agricultural land in the Czech Republic, which substantially exceeds the European average. Reduction of the area of cultivated land (particularly by planting grasslands) will facilitate the resolving of another priority problem – land degradation by water erosion.
- The quality/health of soil is substantially affected by the manner of management. In this relation, attention should be paid to the increasing area of land managed by environmentally sound agriculture, whose long-term effect on the soil environment and the quality of plant production is currently poorly understood.
- It is necessary to permanently monitor the relationships between the concentrations of pollutants in the air (particulate matter, volatile organic compounds, nitrogen oxides, pollutants from automobile transport) and their contents in soil.
- On the other hand, little is known about emissions of "greenhouse gases" (CO₂ and CH₄) from the soil into the air. Thus, exchange of substances and gases between the soil and the air is another priority for research on the soil environment.

- Priority issues also include degradation of forest land. Degradation processes in forest land have been accumulating for decades and forest land regeneration is likely to require the same time.

4.2.3 Individual level

The subject of the soil environment in the CR is addressed by a great many specialists, who are associated in several professional organizations (Annex 6.3). Their potential should also be used for awareness raising and improvement of the level of knowledge of representatives of the State administration and the general public in relation to the importance of soil. The relations between land conservation and consumer protection should be a basic topic of awareness-raising activities.

4.3. SWOT analysis

4.3.1 Proposals and formulations of approaches for strategies and programs

The SWOT analysis is shown in the following table:

| S | W |
|--|--|
| <ul style="list-style-type: none"> • Substantial professional and management potential for formulation of strategies and policies • Adequate representation of the CR in the bodies of the UNCCD • Operative group of persons interested in desertification under the ME CR • Non-governmental organizations are involved in the process • Membership of the CR in the EU stimulates and directs strategies and programs | <ul style="list-style-type: none"> • The Government has yet to formulate the priority programs of developmental assistance for target countries and regions • Insufficient knowledge of the requirements of the target countries and regions • There is a lack of systematic support for enforcing the obligations following from the UNCCD |
| O | T |
| <ul style="list-style-type: none"> • Extension of activities and increasing their effectiveness in relation to the approval of the concept of official developmental assistance of the CR (after January 1, 2006) • Continuation of increased prestige of the CR abroad (particularly in target countries and in the countries of Central and Eastern Europe where CR has a very good name) • Linking the obligations of the CR following from the Conventions on Climate Change, Biodiversity and Desertification • Integrating the subject of desertification in the national research program for 2007-2012 | <ul style="list-style-type: none"> • Lack of a national strategy of combating desertification in the framework of ODA • Inadequate political and economic support for obligations following from the UNCCD • Underestimating intensive research in the area of land and water conservation |

4.3.2 Implementation of approaches, strategies, legislation and programs

The SWOT analysis is shown in the following table:

| S | W |
|--|--|
| <ul style="list-style-type: none"> · Ratification of UNCCA published under Act No. 53/2002 Coll. · Appointment of a group of persons interested in desertification (ME CR) · Establishment of a focal point for desertification (Department of Global Relations of the ME CR) · Representation of the CR in the Group of Experts (GoE) under UNCCD · Appointment of a group of persons interested in combating desertification under the ME · Ongoing bilateral and multilateral developmental projects in countries experiencing drought · Activities of non-governmental organizations in target countries · Implementation of research projects related to the impact of drought on the environment | <ul style="list-style-type: none"> · Lesser interest of qualified professionals in meeting the obligations under the UNCCD · To-date insufficient involvement of the CR in international projects (particularly EU projects) concerned with the impact of drought · Less financial support for international projects from the CR |
| O | T |
| <ul style="list-style-type: none"> · Involvement of the CR in international projects (including the EU projects) · Obtaining foreign funds for drafting and implementing selected projects · Applying measures reducing the impact of drought on the inhabitants of countries affected by desertification | <ul style="list-style-type: none"> · Failure to use the complete potential of Czech qualified experts · Less use of mechanisms of international and national support for projects concerned with combating desertification · Change in governmental policies |

4.3.3 Commitment and building consensus among the stakeholders

The SWOT analysis is shown in the following table:

| S | W |
|---|--|
| <ul style="list-style-type: none"> Active cooperation of the ME CR with the Secretariat of the UNCCD Active inter-sectoral cooperation in the fulfillment of international obligations following from the UNCCD in the CR Wide network of scientific-research institutions, universities and non-profit organizations that can be actively involved Long tradition of research and education in the area of degradation of the land and the landscape and management of water resources Non-governmental organizations actively participate in developmental and humanitarian assistance | <ul style="list-style-type: none"> Inadequate knowledge and motivation of qualified experts in relation to the fulfillment of obligations under the UNCCD Lack of information on the requirements of the target countries Inadequate knowledge among Czech institutions and agencies providing grants for implementation of research projects |
| O | T |
| <ul style="list-style-type: none"> Limiting the lack of water and food (and, consequently, also poverty) in countries affected by desertification Development and application of new technologies Development of new forms of environmental education | <ul style="list-style-type: none"> Lack of awareness among the governments of the target countries Change in governmental policies in the CR Lack of interest among qualified professionals Extreme opinions and activities |

4.3.4 Educational processes, awareness raising

The SWOT analysis is shown in the following table:

| S | W |
|---|--|
| <ul style="list-style-type: none"> Long tradition of pre- and post-graduate environmental education in the CR Long tradition of research in the area of soil, water and landscape protection New findings that can be utilized in combating desertification Governmental policy supporting training and education of foreign students and specialists in the CR | <ul style="list-style-type: none"> Limited information on the requirements of the target countries Insufficient coordination among educational, research and application activities Limited potential of Czech experts and students for cooperation with universities and research workplaces of target countries |
| O | T |
| <ul style="list-style-type: none"> Involvement of universities and scientific-research institutions in international projects Use of funds from abroad (particularly the EU) Development of new approaches to training of experts for target countries | <ul style="list-style-type: none"> Little interest among the governments of target countries |

4.3.5 Monitoring, evaluation, reporting

The SWOT analysis is shown in the following table:

| S | W |
|---|---|
| <ul style="list-style-type: none">· Regular preparation of surveys of completed and ongoing ODA projects ensured by the individual ministries· Indicative survey of areas of developmental interventions· Establishment of www.rozvojevka.cz | <ul style="list-style-type: none">· Limited information on the success of completed ODA projects· Limited information on the causes of premature termination of certain projects |
| O | T |
| <ul style="list-style-type: none">· Increasing the interest of the public and involvement of the scientific community in ODA programs· The published results of evaluation of ODA will reduce the risk of failure of further projects | |

5.1 Proposals for strengthening and development

of capacities at the systemic level

- Accelerate a change in the form of official developmental assistance – from the currently isolated projects to implementation of programs of official developmental assistance.
- Further involve the Forum for Developmental Assistance (FODA) in the preparation of programs of official developmental assistance and take account of the already existing programs of the EU Member States and other donors.
- Regularly up-date a survey of needs (demands) of the target countries and provide it to entities that could be involved in official developmental assistance.
- Create a clearing house in the CR that will allow exchange of information and data on drought and desertification and link governmental agencies, the private sector, NGOs, focal points of other UN Conventions, representatives of the media, representatives of self-governing bodies, research and university workers and entities managing the landscape (farmers, water managers, foresters ...)
- Improve subregional cooperation between countries with similar problems related to soil and landscape degradation, both with the countries of the region of Eastern Europe and with other European countries that do not belong to this group.

Recommendations and manner of implementation at systemic level

| Recommendations | short | long | Invest. high | Invest. low |
|--|-------|------|--------------|-------------|
| Accelerate a change in the form of official developmental assistance – from the currently isolated projects to implementation of programs of official developmental assistance | • | | | • |
| Take account of the already existing programs of the EU Member States and other donors in the preparation of programs of official developmental assistance | | | | |
| Draw up a survey of needs (demands) of the target countries and provide it to entities that could be involved in official developmental assistance | | | | |
| Create a clearing house in the CR that will allow exchange of information and data on drought and desertification and link governmental agencies, the private sector, NGOs, focal points of other UN Conventions, representatives of the media, representatives of self-governing bodies, research and university workers and entities managing the landscape (farmers, water managers, foresters ...) | | | | |

Recommendations and manner of implementation at systemic level

| Recommendations | short | long | Invest. high | Invest. low |
|--|-------|------|--------------|-------------|
| Improve subregional cooperation between countries with similar problems related to soil and landscape degradation, both with the countries of the region of Central and Eastern Europe and with other European countries that do not belong to this group. | | • | | • |

short - short term measures,

long - long term measures,

Invest. high - high investment requirements,

Invest. low - low investment requirements

5.2 Recommendations for strengthening and development

of capacities at the institutional level

- Incorporate the subject of drought and desertification in the national research program for 2007-2012
- Improve the knowledge of scientific-research institutes of the principles of official developmental assistance, concentrating on countries experiencing drought and/or desertification and projects implemented by governmental and private entities and NGOs.
- More effectively and intensively utilize the potential of Czech universities for preparation of experts for countries experiencing drought and desertification.
- Improve the knowledge of Czech grant agencies of the relations between research on drought/desertification and the official developmental assistance program.

Recommendations and manner of implementation at institutional level

| Recommendations | short | long | Invest. high | Invest. low |
|--|-------|------|--------------|-------------|
| Incorporate the subject of drought and desertification in the national research program for 2007-2012 | • | | | • |
| Improve the knowledge of scientific-research institutes of the principles of official developmental assistance, concentrating on countries experiencing drought and/or desertification and projects implemented by governmental and private entities and NGOs. | • | | | • |
| More effectively and intensively utilize the potential of Czech universities for preparation of experts for countries experiencing drought and desertification. | | • | | • |
| Improve the knowledge of Czech grant agencies of the relations between research on drought/desertification and the official developmental assistance program. | | • | | • |

short - short term measures,

long - long term measures, Invest.

high - high investment requirements,

Invest. low - low investment requirements

5.3 Recommendations for strengthening and development

of capacities at the individual level

- Substantially increase awareness raising with emphasis on the consequences of drought on a global and national scale.
- Inform the public, in the long term and specifically, of the problems faced by countries experiencing drought and/or desertification.
- Publish "SUCCESS STORIES", i.e. successful projects of Czech entities in affected countries.

Recommendations and manner of implementation at institutional level

| Recommendations | short | long | Invest. high | Invest. low |
|---|-------|------|--------------|-------------|
| Substantially increase awareness raising with emphasis on the consequences of drought on a global and national scale. | | • | | • |
| Inform the public, in the long term and specifically, of the problems faced by countries experiencing drought and/or desertification | | • | | • |
| Publish "Success Stories", i.e. successful projects of Czech entities in affected countries. | | • | | • |
| Support the participation of donors, as well as active involvement of the public, in selected official developmental assistance projects. | | • | | • |

short - short term measures,

long - long term measures, Invest.

high - high investment requirements,

Invest. low - low investment requirements

5.4 Priorities (Urgent needs)

- Draw up a survey of needs (demands) of countries experiencing drought and/or desertification and provide it to entities that could be involved in official developmental assistance.
- Integrate the subject of drought and desertification in the Czech National Research Program for 2007-2012.

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