



**SUBREGIONAL ACTION PROGRAMME  
FOR THE CENTRAL ASIAN COUNTRIES  
ON COMBATING DESERTIFICATION  
WITHIN THE UNCCD CONTEXT**

**3 September, 2003, Havana**

**Ministerial Declaration of Countries of Central Asia**  
**Subregional Action Programme for the Central Asian countries on combating  
desertification within the UNCCD context**

**Expressing** deep concern in connection with impact of desertification and drought in Central Asian states;

**Taking into account** the Nukus Declaration adopted in September 1995 by International Conference on Sustainable Development of the Aral Sea Basin and the commitments of its participants to future region-wide cooperation in all spheres on the basis of mutual respect, good neighbourly relations and determination to make significant progress in resolving the human and environmental consequences of the Aral Sea crisis;

**Noting**, that the United Nations Convention to Combat Desertification (UNCCD), which entered into force on 26 December 1996 contains necessary provisions for the development of subregional cooperation;

**Drawing attention** to the fact that the UNCCD expresses concern of international community over the impact of desertification on countries in Central Asia;

**Fulfilling** their commitments under the UNCCD;

**Recognizing** that desertification and drought are the problems of transboundary nature and that joint actions of relevant countries are needed to combat desertification and drought, as well as poverty on a world scale:

**The Ministers agreed:**

1. **To adopt** the text of the attached Subregional Action Programme for the Central Asian states to combat desertification (SRAP/CD) within the UNCCD context;
2. **To consider** the SRAP/CD as an integral part of the national policies on sustainable development;
3. **To involve** into the process of the SRAP/CD all stakeholders and **to raise awareness** regarding the UNCCD and the SRAP/CD of civil society, decision-makers, scientific community, NGOs, as well as all users of natural resources;
4. **To request** the UNCCD Secretariat and the Global Mechanism of the UNCCD with support from interested organizations of the UN system, other organizations and developed country Parties to the UNCCD to continue the consultative process with a view of identifying the main partners for the implementation of the SRAP/CD;
5. **To request** organizations of the UN system, in particular, the Economic Commission for Europe, Economic and Social Commission for Asia and Pacific, United Nations Development Programme, United Nations Environmental Programme, United Nations Institute for Training and Research, Food and Agricultural Organization, International Fund for Agricultural Development, United Nations Educational, Scientific and Cultural Organization, World Meteorological Organization, as well as the Global Environmental Facility to provide technical and financial assistance to the process of implementing and developing the SRAP/CD;
6. **To invite** the international donor community, in particular the World Bank, the European Bank for Reconstruction and Development, the Asian Development Bank, Islamic Development Bank, as well as European Community and bilateral donor agencies to take part in implementing the SRAP/CD;
7. **To express** gratitude to the Government of Germany for financial assistance provided during the preparation of the SRAP/CD.

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## 1. Introduction

The Central Asian region, which includes Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan (hereinafter referred to as, “countries of CA”) shares a common cultural and historical development. It is a classical example of an arid and sub-arid region characterized by serious cross-border problems of desertification. The redistribution of water resources in the region has caused numerous ecological impacts that are adversely affecting natural ecosystems, economic growth and public health, and stimulating migration (Current issues for the region – annex A).

The International Conference in Nukus, Uzbekistan in September 1995 adopted a Declaration on the Problems of Sustainable Development of the Aral Sea Basin. The Declaration formulated the signatories’ commitments for future cooperation in all areas at the regional level based on mutual respect and good neighbourliness, and also expressed their determination to achieve significant progress in solving the humanitarian and ecological problems of the Aral Sea Basin.

All countries of the subregion are now Parties to the United Nations Convention to Combat Desertification (UNCCD). Pursuant to the Convention, they have all prepared national action programmes (NAPs) to combat desertification. Since desertification and drought are cross-border problems requiring joint action, it has been decided to develop a Subregional Action Programme for the CA countries to Combat Desertification (SRAP/CD) within the UNCCD context.

The Convention regards the preparation and implementation of a SRAP/CD as an integral parts of the countries’ national policy regarding sustainable development. The countries recognize the necessity for the framework of subregional cooperation to encompass not only the NAPs, but other national action plans to improve socio-economic and ecological situations in the countries. There must be a connection with other international conventions and corresponding legal agreements, as well as regional and/or global programmes relating to combating desertification and drought.

The first meeting at ministerial level on preparation of a SRAP/CD, held in Bishkek in July 2000, decided that the preparation and implementation of the SRAP/CD must be regarded as an integral part of the countries’ national policies regarding sustainable development. The ministers expressed the need for an international conference of the Central Asian nations with the participation of other interested countries, United Nations agencies, and other appropriate organizations at a suitable time with the support of the UNCCD secretariat in order to adopt the programme.

At the second meeting to draft the SRAP/CD, held at Almaty, Kazakhstan in April 2001, the priority areas of cooperation were identified, in which immediate action was required. Further to decisions adopted at Almaty, pilot projects were drafted, training courses and seminars on problems of desertification with the support of the DSE were organized. A Regional Technical Assistance project (RETA) financed by the Global Mechanism (GM) and the Asian Development Bank (ADB) is being implemented. A memorandum on strategic partnership was signed between the GM, the ADB, the Gesellschaft für Technische Zusammenarbeit (GTZ)-CCD project and the Canadian International Development Agency (CIDA) on providing assistance to the Central Asian countries. Swiss Agency for Development and Cooperation (SADC) and International Center for Agricultural Research in the Dry Lands (ICARDA) jointed this Memorandum. A number of working meetings on the preparation of the SRAP/CD were organized in 2002-2003.

## 2. National action programs (NAPs) to combat desertification

In accordance with the provisions of the UNCCD, all five Central Asian countries prepared NAPs to combat desertification, which are the central element in the strategy for combating desertification and mitigating the effects of drought.

These programmes are interrelated with other national, subregional and regional programmes.

***Kazakhstan:*** The NAP was prepared in 1997 and updated in 2002. The principal aim of the NAP is to combat desertification, as one of the prerequisites for sustainable development of the country and improving the welfare of the people by preventing degradation of land, improving its productivity, and ensuring food security, and political stability while meeting the mandatory requirement to preserve biological diversity and reproductive capacity. To achieve these goals, the programme specified the following objectives:

- Prevention or reduction of the scale of desertification and the adverse impacts of drought;

- Taking steps to reclaim degraded lands and restore soil productivity;
- Creation of favourable conditions at the national level for the balanced use, conservation and restoration of land resources;
- Development and introduction of economic mechanisms for sustainable land use which would ensure the conservation and/or restoration of the resource base and strengthen the ecological safety of the population;
- Awareness raising and the involvement of all strata of society in decision-making on the problems of combating desertification;
- Integration of anti-desertification activities into national economic and social development programmes, and ensuring consolidated implementation of international environmental conventions and agreements;
- Developing scientific research in combating desertification;
- Involvement of local communities in combating desertification.

**Kyrgyzstan:** The NAP was prepared in 2000. Its principal aims are:

- Increasing the role and potential of local communities in combating desertification and poverty alleviation;
- Conservation of mountain ecosystems and biodiversity; development of ecotourism
- Optimization of irrigated agriculture including control over erosion processes, salinization and waterlogging;
- Increase of forest areas as a prerequisite for water resources conservation and the prevention of processes of erosion and landslides;
- Integrated natural resources management in watershed areas;
- Rangeland management.

**Tajikistan:** The NAP was prepared in 2000 and approved in 2001 by a resolution of the Government of the Republic of Tajikistan. A Plan for NAP Implementation Measures has been drawn up. The principal aims of the NAP are:

- Improvement of ecological conditions in the irrigated area in order to raise the people's standard of living;
- Preservation of biodiversity of mountain ecosystems;
- Creation of year-round pastures;
- Use of alternative energy sources;
- Preservation and expansion of areas of mountain forests;
- Introduction of traditional (local) methods of agriculture in the dry-farming agriculture zone;
- Protection of topsoil productivity;
- Awareness raising at the level of local communities with regard to the rational use of natural resources through the mass media and wide involvement of civil society into implementation of the NAP's principal aims;
- Capacity building on combating desertification at the level of local communities.

**Turkmenistan:** The NAP was prepared in 1997. The principal objectives of the NAP are the formulation of criteria for assessment of land degradation, the development of new technologies to rehabilitate degraded lands and the achievement of sustainable use of natural resources. Special attention should be given to traditional knowledge and know-how. To achieve these objectives the following priority areas were identified in the NAP:

- Development of the National Monitoring System;
- Creation of year-round pastures;
- Stabilization and afforestation of moving sands;
- Conservation and restoration of forests;
- Improvement of the ecological situation in the Turkmen part of the Aral Sea region;
- Development and use of wind and solar power generators for remote rural settlements;
- Involvement of a wide range of civil society in combating desertification;
- Support to scientific research and regional and international cooperation.

**Uzbekistan:** The NAP was prepared in 1999. The principal aims of the NAP are:

- Mitigation of the impact of droughts, especially in the lower reaches of rivers;
- Improvement of the people's standard of living;
- Combating the degradation of irrigated lands;
- Combating secondary salinization on irrigation lands;
- Afforestation of the dried bottom of the Aral sea;
- Improvement of ecological conditions in the Aral sea basin;
- Rational use of water resources.

The countries of the subregion will amend their programmes if necessary to reflect changing conditions. In particular, they may amend or expand the NAPs to take account of the provisions of this subregional programme. The NAPs will be updated as part of an ongoing process of public participation based on experience gained through local implementation and the results of scientific research.

Under the SRAP/CD, arrangements will be made to share information and results on NAP implementation and proposed amendments and additions, which will promote effective implementation of joint measures at the subregional level.

### **3. Objectives of subregional cooperation**

Under Article 11 of the UNCCD, country- Parties may prepare subregional action programmes to harmonize, complement and increase the efficiency of national programmes. The principal objectives of the SRAP/CD are:

- Providing additional impetus and creating new mechanisms for NAP implementation;
- Coordination of subregional interests, solving problems related to the mutual use of cross-border resources, and prevention of possible conflicts;
- Strengthening the subregional and international exchange of information and experience;
- Mobilize bilateral and multilateral donors in implementation of the UNCCD in the subregion;
- Ensuring synergy in the subregional implementation of environmental conventions;
- Improving the effectiveness of participation of countries in the region in implementing the Regional Action Programme (RAP) for Asia, developing cooperation with other regional programmes, and promoting joint participation in events organized at the international level, in particular at sessions of the Conference of the Parties (COP) to the UNCCD;
- Developing and implementing joint programmes;
- Ensuring sustainable improvement of socio-economic conditions and increased capabilities with respect to employment and incomes, especially for disadvantaged people, in particular, women and youth.

### **4. Priority areas of subregional cooperation**

The areas of subregional cooperation outlined below, which were approved by the second meeting of the working group for the preparation of the SRAP/CD, constitute the framework for implementation of joint and/or national pilot projects under the SRAP/CD.

#### **a) Monitoring and evaluation of desertification processes; establishment of an early warning system for drought and drought mitigation**

In the Central Asian subregion, the establishment of a monitoring and evaluation system will be based on a common database. National geographic information systems for environmental monitoring, which exist or are under development (in Almaty, Ashgabat, Bishkek, Nukus and Tashkent) will be a basis for establishing a subregional information-sharing network and database.

The organization of a subregional monitoring system will require:

- Developing an early warning system and creation of the necessary information database on drought prevention;
- Monitoring and assessment of desertification using ground and remote methods;
- Development of general and specific indicators on the prevention of drought;

- Preparation of short- and medium-term forecasts on the dynamics of glaciers and water resources;
- Use of the early warning systems for drought mitigation to respond to the needs of agriculture and the public;
- Development of innovative, and adaptation of traditional methods of combating land degradation and drought using the potential of local populations;
- Assessment and forecast of losses resulting from desertification and drought.

Each country will be represented in the monitoring and information sharing system by a specific base institution and by a system of basic centers for tracking and collecting data to ensure timely receipt and rapid processing of data and systematic expansion of the database. Close coordination of action, exchange of experience and information with the Thematic Programme Network for Desertification Monitoring and Assessment (TPN-1) of the RAP for Asia will be ensured in order to make effective use of funding and avoid duplication of effort.

### **b) Improvement of water use in agriculture; combating erosion, salinization, and swamp formation**

Joint action to improve water use in agriculture will be aimed at improving the efficiency of water use per unit area, cultivating plants with lower water consumption, growing salt-resistant plants, changing the type of using unproductive areas, and restoring the drainage system.

Subregional cooperation in this area will be organized through:

- Studying possibilities for the application of water-saving technologies to agriculture;
- Development of projects to prevent water and wind erosion;
- Creation of a network of pilot agricultural enterprises where the key agricultural and reclamation technologies will be developed and tested;
- Joint development of methodology and technology for measuring the chemistry and salt content of soils and ground water, as well as for draining and flushing saline soils;
- Development of principles for organization and development of farmers' and water users' associations and agricultural services;
- Dissemination of best practices of farmers and family-owned plant-growing and livestock farms;
- Development of principles of a free-market-oriented agricultural system, and its introduction.

The SRAP/CD and the Aral Sea Basin Project will share information and cooperate with one another. Also, close coordination of action and exchange of experience and information with the Thematic Programme Network for Water Resources Management for Agriculture (TPN-4) of the RAP for Asia will be ensured to make effective use of funding and avoid duplication of efforts.

### **c) Agroforestry and management of forest resources and watersheds**

The principal aim of joint action lies in reducing and/or halting the process of deforestation, and in developing, introducing and improving afforestation and agroforestry technologies.

Close coordination of action, exchange of experience and information with the TPC-2 for Agroforestry and Soil Conservation of the RAP for Asia will be ensured to make effective use of funding and avoid duplication of effort.

In the area of watershed management, special attention will be paid to:

- Conservation of mountain ecosystems;
- Integrated management of natural resources in watershed basins;
- Forecasting of atmospheric processes;
- Prevention of mudflows, landslides, and other geo-dynamic processes;
- Stabilization of river discharges and conservation of water quality;
- Joint research in the field of alternative sources of energy.

#### **d) Pasture management**

The efficient use and improvement of pastures is an important element in the action against desertification. The transformation of state forms of ownership and the introduction of private and individually-owned farms requires studying the pasture management issue under the new forms of ownership. The SRAP/CD's main goal in this area will be sustainable pasture management, which means increasing livestock productivity while at the same time conserving pastures.

Joint action will include the following measures:

- Development of pasture management principles and system in the subregion ;
- Introduction and use of new technologies for improving and restoring degraded pastures;
- Updating the methods of assessment of the state of pasturelands and hay lands;
- Development and introduction of integrated grazing systems, including rotational grazing;
- Collection, analysis and synthesis of traditional knowledge and experience in the use of pasture;
- Establishment of informational/monitoring network and a joint database on management of pastures.

Close coordination of action and exchange of experience and information with the TPN-3 for Pastureland Management and Sand Stabilization of the RAP for Asia will be ensured to make effective use of funding and avoid duplication of effort.

#### **e) Conservation of biodiversity and nature protection; development of eco-and ethnotourism**

Conservation of biodiversity is another critical problem of the Central Asian subregion, where 50 years of intensive development resulted in a tremendous transformation of the ecosystems and landscapes. This transformation has affected all components of the ecosystem: ground water, soils, flora and fauna. New anthropogenic types of landscape have been formed over wide areas.

Joint actions will be aimed at assessing the intensity of transformation processes, revealing urgent problems, and developing and implementing appropriate strategies. In particular, these actions will **include:**

- Creation of an eco-network, including transboundary protected territories and inventory of selected elements of biodiversity and revealing "hot spots" at the subregional level;
- Development of strategies and standards for biodiversity conservation and the protection of natural landscapes and ecosystems.

Special attention will be given to the synergy of the planned measures with the subregional implementation of the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity, the UNESCO Convention Concerning the Protection of the World Culture and Natural Heritage, as well as other environmental conventions.

Taking into account the subregion's great potential for the development of international tourism, including in the region of the Great Silk Road (the historic landmark cities of Samarkand, Bukhara, Khiva, Osh, Turkestan and Nissa and other numerous reserves, picturesque mountains and desert landscapes, the high mountain lakes of Issyk-Kul and Sarez, the underground Lake Kovata etc.), joint actions under the SRAP/CD will be aimed at developing environment-friendly tourism, including private-sector involvement. Specific joint steps in this area will include, in particular:

- Creation of the necessary infrastructure for the development of eco- and ethno-tourism and sharing of experience at the subregional level;
- Identification of requirements and potential for financial needs and technical support at the national and international levels.

Cooperation will be established with relevant the cross-border projects.

#### **f) Economic capacity building of local communities**

Interrelationship between the processes of land degradation and inadequate standard of living is well-known. Countries of the region are paying significant attention to resolving these problems. In particular, Poverty reduction strategies have been prepared in Kazakhstan, Kyrgyzstan and Tajikistan.

Joint action in this area will include:

- Development and exchange of experience on alternative sources of income;
- Research into alternative sources of energy;
- Exchange of experience on stimulating economic development of rural communities, in particular in remote and difficult of access districts;
- Exchange of information on potential markets.

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Activities under the above-mentioned six priority areas will be complemented by activities on crosscutting issues such as, for example, the legal aspects of resources management; monitoring, evaluation and reporting based on a system of benchmarks and indicators; participation of civil society and the private sector; and coordination with other important programmes and initiatives, etc.

## **5. Instruments for solving subregional problems**

The principal instruments for solving subregional problems include: pilot national and subregional projects, training courses, scientific cooperation and information exchange.

### **a) Pilot national and subregional projects**

The strategy for implementation of the SRAP/CD is based on the fact that at the initial phase, national pilot projects will be prepared and implemented in priority areas of subregional cooperation set out in section 4 (see above). At the second phase, as experience is gained in implementing national pilot projects, they will be duplicated in other Central Asian countries, making them subregional.

With sufficient funding, subregional (transboundary) projects covering two or more Central Asian countries will be developed and implemented.

Under the provisions of Articles 3 and 5 of the Convention, the Parties are committed to making all necessary efforts to ensure participation of the public, in particular of non-governmental organizations (NGOs) and scientific institutions, at all phases of development and implementation of national and subregional pilot projects.

#### ***i) National pilot projects***

The national pilot projects are among the basic components of the SRAP/CD; they will be closely tied to NAP implementation. The national focal point for the UNCCD will organize monitoring and evaluation of projects' performance. The results and experience of implementation will be taken into account for their duplication in other Central Asian countries. When developing and implementing pilot projects, in particular, the following will be ensured:

- Involvement of the resource users at various levels in project implementation, including relevant local administrative bodies;
- Involvement in project implementation of principal targeted groups, in particular women and youth;
- Active participation of NGOs and public organizations, local communities and administration, as well as scientific and research institutions;
- Development of contacts and cooperation with other national projects and regional structures (International Fund for the Aral Sea (IFAC), Interstate Coordination Water Commission (CWC), Interstate Commission on Sustainable Development (ICSD), etc.);
- Use of the Participatory Rapid Appraisal (PRA) method. This should be accompanied by testing under the pilot projects;
- Active communication among all participants, training and education, preparation of information on "successful practices";
- Introduction of simple methods of monitoring and evaluating results.

The transfer of project implementation experience to other Central Asian countries for the purposes of project replication will be supported by:

- Organization of subregional seminars;
- Regular publication of information in the mass media and various periodicals, including the international scientific and practical journal *Problems of Desert Development*<sup>1</sup> and the electronic bulletin “*Central Asia: Desertification Problems*,”
- On-line publication on regional and national Internet websites;
- Exchange of teams of experts and representatives of local communities, in particular, with the support of the CETP programme of the GM.<sup>1</sup>

A priority list of the national pilot projects is given in annex B.

## ***ii) Subregional projects***

*Such projects could be developed, in particular, on the following issues:*

- Development of drought early warning system (priority area 4a);
- Preparation and publication of a desertification map of Central Asia on the scale 1:1 000 000 using satellite photos (priority area 4a);
- Efficient use of land and water resources (priority area 4b);
- Stabilization and afforestation of shifting dunes (priority area 4b);
- Conservation of mountainous ecosystems (priority area 4c);
- Efficient use of pasture resources; restoration and improvement of degraded forest and pasture lands (priority area 4d);
- Creation of cross-border especially protected territories (priority area 4e);
- Development of a system for exchange of information on the volume of and markets for agricultural products and products of their processing (priority area 4f).

The low living standards of the rural population throughout Central Asia hinder the implementation of actions to protect land productivity. It will be important to strengthen the role and increase the economic capabilities of rural communities in order to combat desertification. Joint action will be aimed at:

- Mutually beneficial agricultural specialization in the subregion;
- Improvement of the conditions for the development of trade and ecotourism, and sharing of experience and technologies;
- Development of joint programmes for using natural raw-material resources, with the primary aim of improving the living standards of the rural population.

The UNCCD national focal points from interested countries will determine the appropriate organizations and institutions, which will participate in the development and implementation of subregional or cross-border projects. The UNCCD national focal points will organize overall monitoring of the implementation of such projects.

## **b) Training courses**

The organization and conduct of training courses on combating desertification is an important tool for the UNCCD implementation. The Central Asian countries have scientific and research institutions, field stations. Their potentials will be activated in the future for training courses.

In Kazakhstan, on the basis of the Institutes of Geography, Botany, Ecology and Sustainable Development it is proposed to organize training courses on:

- Utilization of GIS technologies for mapping desertification processes using the methods of remote exploring;

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<sup>1</sup> Official French name: Centre d'étude des Environnements Terrestre et Planétaires. English equivalent: Centre for the Study of Earth and Planets Environments.

- Awareness raising of local communities on non-traditional methods of upgrading living standards and socioeconomic conditions of rural population and on the need for care treatment of natural resources.

On the basis of the Institute of Irrigation of Kyrgyzstan it is proposed to organize training courses on:

- Utilization of information technologies for management of water and land resources.

At the field stations Pasigache, Televyshka and Navabad of the Tajik Scientific-Research Institute of Forestry, the following training courses could be organized:

- Rational management of eroded slop lands;
- Anti-erosion afforestation methods to combat land degradation in mountains;
- Methods of erosion processes control.

At the National Institute of Deserts, Flora and Fauna of the Ministry of Nature Protection of Turkmenistan it is envisaged that the following training courses will be conducted:

- Ecology, management and productivity of pastures;
- Fixation and afforestation of moving sands;
- Rehabilitation of forests and control of soil erosion in mountainous areas.

In Uzbekistan, on the basis of the Institute of Forestry and Institute for Astrakhan Sheep Breeding it is proposed to organize training on:

- Phytoreclamation of sands;
- Amelioration of pastures.

The training potential of international organizations, in particular the United Nations Institute for Training and Research (UNITAR), and of developed partner nations, in particular Germany, as well as of other interested countries, will also be used. Training courses should also be organized on the following topics:

Early warning methods and systems for drought;

Best practices in resources management in the subregion;

Legal aspects of resources management in the subregion;

Combating the salinization of irrigated soils;

Traditional and state-of-the art methods of combating desertification;

Economic assessment of both damage through desertification and the economic impact of counter measures;

Utilization of PRA methods in order to stimulate participation of the user community; development of cooperation between stakeholders and donor organizations present in the countries.

### **c) Scientific cooperation**

Starting in the 1960s, much has been done in Central Asia in the field of scientific research relating to combating desertification, in particular by the Institute of Deserts in Ashgabat, Turkmenistan. Regional activities such as scientific conferences and international training courses on problems of combating desertification have been carried out. The journal *Problems of Desert Development* continues to be published. The subregion possesses a scientific and information base as well as the related structures and organizations that can be used in the SRAP/CD framework. The available knowledge and technology should be accessible to all interested users in the countries of the subregion; in particular the aspects of sustainable management of natural resources should be taken into account in the countries' economic development plans.

Subregional scientific cooperation in subregion is open to any interested institutions and organizations. The following institutes will play a coordinating role: the Institute of Geography of the National Academy of Science of Kazakhstan, the Scientific- Research Institute of Irrigation of Kyrgyzstan, the Tajik Scientific-Research Institute of Forestry, the National Institute of Deserts, Flora and Fauna of the Ministry of Nature Protection of Turkmenistan and the Central Asian Scientific-Research Institute for Hydrometeorology of Uzbekistan.

The regional scientific cooperation programme could include the following components:

- Assessment of the existing scientific potential and databases on problems of desertification in the subregion and of the presence of gaps in knowledge;
- Coordination and standardization of the process of gathering and analysing scientific data and the creation of a subregional system of information sharing and databanks on problems of desertification;
- Selection and planning of research topics and projects under identified priority areas of subregional cooperation;
- Transfer and exchange of technologies, in particular traditional knowledge and know-how and delivery of these to the local consumer level;
- Allocation of regional stipends for scientific research (for students and researchers) in the framework of projects related to the problems of desertification;
- Compilation, study, adaptation and use of local and traditional technologies and know-how, which are proven by long practice at the local consumer level;
- Organization of joint expeditions for the study of desertification processes in cross-border territories;
- Release of joint publications.

Activities will be coordinated closely, and experience and information will be shared with the UNCCD Committee on Science and Technology.

#### **d) Development of information sharing system on desertification and land degradation in the subregion**

Effective regional cooperation demands the organization of a properly functioning mechanism of information exchange. National focal points and national coordinating bodies should play the leading role in organizing and developing a system of information sharing at national and subregional levels on issues related to implementation of the SRAP/CD.

One of the major aims of information sharing will be the wider involvement of public in SRAP/CD implementation through raising awareness of desertification/land degradation, of related traditional and state of the art knowledge and technologies of the UNCCD itself and of its implementation in Central Asia and worldwide. Joint actions in this direction will include the following:

- Strengthening and maintaining publication of the scientific-practical journal *Problems of Desert Development* and of an on-line bulletin “Central Asia: problems of desertification”;
- Further development of a system of Internet web sites dedicated to desertification issues (regional and national);
- Creation of a thematic information server and/or special Internet forum;
- Preparation and publication of a series of methodological guidelines (in Russian and national languages) on desertification and rehabilitation as well as the rational use of natural resources;
- Further collection, analysis and popularization of traditional knowledge and technology in the field of natural resource management and combating land degradation;
- Production of a series of popular video films on desertification in national, English and Russian languages.

Considerable role in this area will be played by NGOs of Central Asia, including those belonging to the Réseau International des ONG sur Désertification (RIOD) network. Close cooperation should be established between the national coordinating bodies and relevant governmental and scientific institutions, as well as NGOs, public organizations, the Committee on Science and Technology of the UNCCD and regional TPN-6.

## **6. Role of NGOs and public organizations, as well as local administrative bodies in the SRAP/CD implementation**

NGOs play an important role in environmental sector by providing a link between governmental structures and the local population. Since 1996, the RIOD, a network of NGOs for monitoring desertification, has been operating in Central Asia.

At present, NGOs of the subregion have accumulated considerable scientific, methodological and informational potential on combating desertification. They created regional and national websites on desertification. A monthly on-line bulletin on desertification have been created. A number of seminars and other events were organized on national and subregional level.

Community of NGOs has considerable potentials for: organizing training and seminars on various aspects of combating desertification; participating in scientific research; developing information exchange and popularization of the UNCCD, especially at local level; participating in designing and implementation of pilot projects at different levels..

The role of NGOs and local administration is very important in mobilizing wide layers of population, in particular women and youth for implementing the SRAP/CD, inter alia, through pilot projects. It is necessary to use the experience of NGOs in utilizing PRA-methods and other methodologies of involving local population in the process of decision making. NGOs can also play an important role in collecting, analysing and dissemination of traditional and local knowledge, technologies and know-how.

NGOs may undertake independent assessment and monitoring the implementation of the SRAP/CD.

## **7. Monitoring and coordination of SRAP/CD implementation**

### **a) The national level**

In each country, in addition to its existing functions, the national coordinating body (NCB) for the UNCCD performs, in particular, the following tasks:

- Monitoring and coordination of implementation of the SRAP/CD at the national and subregional levels;
- Ensuring integration of SRAP/CD projects into the national strategies on sustainable development and interdepartmental coordination;
- Ensuring the mobilization of resources at the national level from state budgets and other sources including international ones;
- Development of synergies of the processes of in the implementing the SRAP/CD and other multilateral programmes, as well as international environmental conventions;
- Ensuring the linkages with the UNCCD NCBs in other Central Asian countries and related institutions of the UNCCD.

In addition to his/her existing functions, the national focal point for the UNCCD who must have an appropriate status and mandate, plus the financial and technical facilities for fulfilment of his/her tasks will perform the following functions related to the SRAP/CD:

- Preparation of proposals and information for the NCBs of the UNCCD on implementation of the SRAP/CD at the national and subregional levels;
- Organization of evaluation of the conformity of the SRAP/CD projects with the objectives of the NAP and other appropriate programmes and projects;
- Ensuring the linkage with the national focal points for the UNCCD in other Central Asian countries, with the TPNs of the RAP for Asia and other related institutions of the UNCCD;
- Participation in the preparation of a subregional report on SRAP/CD implementation;
- Establishment of the information-sharing system.

A list of ministries and institutions for the coordination of the UNCCD implementation at the national level is given in Annex C.

## **b) The international level**

At the international level, monitoring and coordination will be provided at the level of ministers and the national focal points. The participation of representatives of civil society will be insured.

### ***i) Conference of the Ministers***

The Conference of the Ministers responsible for their countries' participation in the UNCCD is the highest governing body for the monitoring and coordination of the SRAP/CD implementation. The Conference of the Ministers will be convened at least once every three years to make an evaluation of the SRAP/CD performance and to make amendments and additions as necessary. The country chairing the Conference of the Ministers will present the results of SRAP/CD implementation at regular sessions of the Conference of Parties to the UNCCD on behalf of the Central Asian countries.

### ***ii) Meetings of national focal points for the UNCCD***

Meetings of the national focal points for the UNCCD will be held, as a rule, once a year with a view to assess current SRAP/CD implementation and prepare proposals for its improvement. In between the meetings of the national focal points this function will be performed by a Working group on SRAP/CD implementation. One of the national coordinators will perform the function of its chairman taking into account the need for rotation. Terms of reference of the Working group will be prepared at a later stage. Creation of a special fund will be needed to ensure functioning of the Working group.

## **8. Mobilization of financial resources**

Financial resources for the SRAP/CD implementation will be mobilized from various sources, both national (budgetary and private) and international.

Bilateral and multilateral donors and agencies should be involved from the beginning in the consultative process with governmental officials who are responsible for implementation of the SRAP/CD. Among them are, in particular, a group of donors and organizations, including the GM, the ADB, the GTZ CCD –Project and CIDA of Canada which, under the initiative of the GM of the UNCCD and in order to coordinate and improve financial and technical assistance, signed in 2001 in Geneva a memorandum on strategic partnership in the field of regional cooperation in Central Asia, as well as SADC and ICARDA, which joined this partnership at a later stage. It must be ensured that the consultative mechanism is supported by an appropriate *chef de file*. This requirement is obligatory to ensure the participation of bilateral and multilateral donors in implementation of the SRAP/CD.

## **Appendix A**

### **Current issues for the region**

Central Asia is an enormous closed-drainage basin, with the Aral and Caspian Seas, in its lowest parts, and Lake Balkhash as regional bases of erosion. In the late Tertiary and early Quaternary Periods, geologic activity and uplifts in the south-east and eastern parts of Central Asia produced massive mountain systems which border the region to the south and east. The region extends for more than 20° from north to south and for about 40° from east to west. It covers an area of 3.99 million km<sup>2</sup> (1.54 million square miles), and includes arid, semi-arid, and sub-humid territories which make up more than 90 percent.

### **Water and soil resources of Central Asia**

From the standpoint of hydrological resources, this region can be divided naturally into three basins: those of the Aral and Caspian Seas and Lake Balkhash. Only north-eastern Kazakhstan belongs to the Ob River Basin with its ultimate discharge into the Arctic Ocean. The Aral Basin occupies an area of some 1.5–2.0 million km<sup>2</sup> (580,000–770,000 sq. miles). The rivers' headwaters are located mainly in the Pamir Mountains and central Tien-Shan in Kyrgyzstan, Tajikistan and Afghanistan. The main water users in the lowlands are Uzbekistan, Turkmenistan, and Kazakhstan. Total annual runoff is about 120 km<sup>3</sup>.

The Balkhash Basin occupies an area of about 0.5 million km<sup>2</sup>. The main source of water is the Ili River, with an annual runoff of about 15 km<sup>3</sup>. The Balkhash region or, in the broader sense, the Seven Rivers region, is facing the typical problems of the Aral Sea Basin: redistribution of water resources, inefficient use of land, lack of environmental conservation.

The Caspian Sea is the largest intra-continental lake on Earth. It is fed mainly by the Volga, Terek and Ural Rivers. The northern and eastern coasts of the Caspian Sea (Kazakhstan and Turkmenistan) belong to the Central Asian region. The eastern coast of the Caspian Sea has practically no river runoff. Moreover, this region's possibilities for irrigated agriculture are limited by poor soils. Fluctuation of the Caspian sea level and the development of oil and gas industries along the coast are the region's main problems, resulting in a reduction in the Aral Sea level and affecting the ecology of the surrounding region. Most water is used for agriculture.

Soils in the region are relatively heterogeneous. The chernozems and dark chestnut soils of the plains and high steppes, the gray-brown soils and gray desert soils of the foothill plains, and the alluvial soils of the river bottom lands and deltas are suitable for agricultural use. The low-productive zonal soils of the desert flatlands with their covering vegetation are used as pastures.

During the past 50 years, the natural resources of the Aral Sea Basin have suffered considerably from human influence and the progressive development of desertification processes. The state of the environment in the region is determined largely by the disastrous changes taking place in the Aral Sea Basin. In 1960, the Aral Sea, located in the Turanian Depression, was the world's fourth largest sea in terms of water area, with an area of approximately 68,000 km<sup>2</sup> (26,000 square miles). In the past 40 years, it has shrunk considerably, losing 80 percent of its original volume and over 60 percent of its surface area. In addition, the redistribution of water resources in the region has had many other unexpected environmental consequences. The change in balance between water and land resources is leading to regional climatic changes such as the sharpening of continental climate, and shifting of vegetation seasons. The transport of solonchak dust from the dried-up Aral Sea bottom and the increasing levels of aerosols in the air are also having adverse effects. The construction of a large-scale network of canals and levees together with "over-irrigation", are depleting water resources through infiltration and evaporation, degrading soils and vegetation, expanding secondary salinization, and reducing agricultural efficiency in oases.

The Karakalpakstan, Khorezm and Bukhara regions in Uzbekistan, the Tashauz region in northern Turkmenistan, and the Kzyl-Orda region in southern Kazakhstan have suffered most from the adverse environmental changes. Soil salinization and water pollution are reducing agricultural production, reducing drinking water quality and affecting human health.

## **Biodiversity, plant resources, and pastures**

### Biodiversity

The flora of Central Asia are characterized by relatively high levels of diversity. The vascular plant flora number over 7,000 species. Some 2,000 of these form the basis of the Central Asian desert flora. Plant resources are represented by over 20 different types of vegetation. Compared to the mountain flora, the flora of the arid and semi-arid plains are poorer and less varied. However, the flora of the Central Asian temperate deserts are distinguished by higher protective coverage and greater productivity than, for example, those of the subtropical deserts of the Middle East and Arabian Peninsula. Evaporation in the Central Asian deserts is only half to a third as great, and the available moisture is accordingly higher, permitting better development of vegetation. Wildlife management and the protection of endangered animals is an important part of biodiversity conservation and has to be an integral part of the biodiversity programme of the SRAP/CD as well as of specific efforts to improve livelihoods in rural areas.

### Deforestation

The lower and middle tiers of the Central Asian mountains have widespread sub-arid and subhumid deciduous (*Pistacia*, *Amygdalus*, *Prunus*, *Celtis*) and coniferous (*Juniperus*) wood-lands, as well as sub-humid forests (*Juglans*, *Acer*, *Malus*). Logging and grazing have considerably reduced timber stands. Since mountain forests perform a key role in protecting soil and water resources, their reduction is leading to increased erosion and the development of desertification processes in the lower tiers. The faster erosion, irregular distribution of seasonal precipitation and greater aridity, resulting in longer times needed for vegetation to recover. The processes of erosion and desertification have been especially rapid in the southern mountain regions (western Tien-Shan, the Pamir-Alay Mountains, and Köpetdag). Areas of flat and mountainous tugai forests in river bottomlands and deltas and saxaul (*Haloxylon*) stands on the plains have also been considerably reduced by logging.

### Pasture degradation

The Karakum, Muyunkum, Aral Karakum, Ust-Urt, and Betpaqkala deserts, the Kazakh steppe, and the high steppes of the Tien-Shan, Pamir-Alay and Pamir are used mainly for grazing and represent considerable forage potential for domestic livestock in Central Asia. Pasturelands make up approximately 68 per cent of the region's total area. Natural pastures are the feed base for animal husbandry in the region. Maintaining pastures in a good productive state is very important. The effects of anthropogenic factors such as overgrazing, logging, ploughing, fires and other aspects of inadequate rangeland management tend to deplete and degrade pasturelands. Observations have shown, for example, that the recovery of wormwood zonal deserts takes some 20–25 years.

## **The status of nature**

The problem of preserving biological and genetic diversity is especially urgent for Central Asia due to the aridity and vulnerability of natural ecosystems. Central Asia has 35 nature reserves whose status officially conforms to IUCN standards (strictly protected natural lands). The preserves are distributed very unevenly. There are also protected areas whose status conforms to IUCN standards 4-5, but their conservation value is limited. The reserves currently need employees, work space and housing, research staff, materials, and equipment. In addition, the state of security of these lands is often not observed. In many cases, they are used for commercial needs. All five republics are signatories to the Convention on Biodiversity and are making great efforts in this area. In the 1990s, many new reserves were founded or planned. At present, based on some of the natural reserves, the process of setting up of biosphere reserves in Kazakhstan, Kyrgystan, Tadjikistan and Uzbekistan has been started with the help of GEF/UNDP, NABU, and other organisations.

## **Demographic development and socio-economics**

The population of Central Asia in 1999 was approximately 55 million (according to UNESCO data). The population has actually tripled in the past 50 years. This is linked partly to the improvement in general living conditions and partly to the large-family tradition of the region. However, population growth has slowed

somewhat in recent years. Reasons for this include emigration of the Russian-speaking population, declining birth rates and increasing death rates in certain areas. With the exception of Kazakhstan, about two thirds of the population live in rural areas. The population is expected to grow to about 70 million in the next 20–25 years.

As before, agriculture is still the region's predominant area of economic activity. Due to the arid climate, agriculture in the Central Asian republics depends on irrigation and has therefore developed mainly along rivers. The Central Asian region is the world's second biggest cotton exporter after the United States of America. Thus the cotton industry, together with the production of rice and vegetables, are among the key sources of income. The reduction in irrigated lands used for cotton and rice in the past 10 years and the growth of grain-growing areas in the region indicate the possibility of alternative environmentally positive solutions. Fruit growing in the region is unproductive. Pasturage in the region is still extensive, technically underdeveloped, and unstable. Often, large numbers of domestic livestock die due to droughts or the long, cold winters. Sustainable development of animal husbandry is thus impossible without feed stocks. Despite the instability factor, pasture farming and livestock herding are important sources of meat and wool production from the standpoint of both macroeconomics and private farmsteads.

Three countries, Kazakhstan, Turkmenistan and Uzbekistan, are rich in mineral resources, especially strategically important energy resources - oil and natural gas. Kyrgyzstan and Tajikistan, in turn, are rich in hydrological resources. Industrial production is concentrated mainly on processing raw materials. The service sector, however, is expanding rapidly, and the gross domestic product received from it sometimes outstrips the development of other economic sectors. All countries in the region have poorly developed infrastructure, especially in rural areas.

## **Appendix B**

### **A priority list of the national pilot projects**

#### **KAZAKHSTAN**

- Mapping of desertification processes in the territory of Kazakhstan with application of remote sensing methods
- Conservation of arable and pasture lands
- Forest conservation and increase of forest area in Kazakhstan
- Afforestation activities on the dried bottom of the Aral Sea
- Creation of oases and irrigation system in desert regions of Kazakhstan using underground water

#### **KYRGYZSTAN**

- Sustainable management of mountainous pastures
- Strengthening of potential of rural communities in combating poverty and desertification
- Information planning system for agricultural production on the basis of market data
- Complex management of nature resources in rivers' basins
- Rangeland management.

#### **TAJIKISTAN**

- Sustainable development of resources in the Mountainous - Badachshan autonomic region
- Improving of living standards of local population in irrigated areas
- Reforestation on eroded slop lands
- Conservation and increase of anti-erosion forests in watershed zones
- Creation of all-the-year-round pastures

#### **TURKMENISTAN**

- Community-based natural resource management
- Integrated geo-botanical survey of forest and pasturelands of the mountainous region of Bakharden Etrap with application of GIS technologies
- Utilization of wind and solar energy for improving water and power supplies to the small settlements of the arid area of the Caspian seashore
- Planting trees and gardens in desert settlements involving the application of drainage water from a major drainage collector

#### **UZBEKISTAN**

- Development of drought early warning methods and systems
- Establishment of informational systems and database
- Fixation and afforestation of moving sands and dried bottom of the Aral Sea

## **Appendix C**

### **Ministries and institutions for coordination of the UNCCD implementation at the national level**

#### **KAZAKHSTAN**

Ministry of Environmental Protection  
Astana  
Tel. 7-3172-591974  
Fax. 7-3172-591973  
E-mail [bekniyazov@mail.kz](mailto:bekniyazov@mail.kz)

#### **KYRGYZSTAN**

Kyrgyz Research Institute for Irrigation  
Ministry of Agriculture, Water Resources and  
Processing Industry  
Bishkek  
Tel. 996-312-426200/541168  
Fax. 996-312-540975  
E-mail [kulov@elcat.kg](mailto:kulov@elcat.kg)

#### **TAJIKISTAN**

State Committee for Land Management  
Dushanbe  
Tel.992-372-311683/213848/217321 (home: 331063)  
Mobile: 704853  
Fax.992-372-311487/217002/215522  
E-mail [nusrat@tajik.net](mailto:nusrat@tajik.net) - [kkolul@yandex.ru](mailto:kkolul@yandex.ru)

#### **TURKMENISTAN**

National Institute of Deserts,  
Flora and Fauna, Ministry of Nature Protection  
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Tel.993-12-357298  
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#### **UZBEKISTAN**

Cabinet of Ministers, Main Administration of Hydrometeorology,  
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## **Appendix D**

### **Article 11 (UNCCD) and article 5 (Regional Annex for Asia)**

#### Article 11

##### *Subregional and regional action programmes*

Affected country Parties shall consult and cooperate to prepare, as appropriate, in accordance with relevant regional implementation annexes, subregional and/or regional action programmes to harmonize, complement and increase the efficiency of national programmes. The provisions of article 10 shall apply mutatis mutandis to subregional and regional programmes. Such cooperation may include agreed joint programmes for the sustainable management of transboundary natural resources, scientific and technical cooperation, and strengthening of relevant institutions.

#### Article 5

##### *Subregional and joint action programmes*

1. Pursuant to article 11 of the Convention, affected country Parties in Asia may mutually agree to consult and cooperate with other Parties, as appropriate, to prepare and implement subregional or joint action programmes, as appropriate, in order to complement, and increase effectiveness in the implementation of, national action programmes. In either case, the relevant Parties may jointly agree to entrust subregional, including bilateral or national organizations, or specialized institutions, with responsibilities relating to the preparation, coordination and implementation of programmes. Such organizations or institutions may also act as focal points for the promotion and coordination of actions pursuant to articles 16 to 18 of the Convention.

2. In preparing and implementing subregional or joint action programmes, the affected country Parties of the region shall, inter alia, as appropriate:

- (a) identify, in cooperation with national institutions, priorities relating to combating desertification and mitigating the effects of drought which can better be met by such programmes, as well as relevant activities which could be effectively carried out through them;
- (b) evaluate the operational capacities and activities of relevant regional, subregional and national institutions;
- (c) assess existing programmes relating to desertification and drought among all or some parties of the region or subregion and their relationship with national action programmes; and
- (d) formulate in a spirit of partnership, where international cooperation, including financial and technical resources, is involved, appropriate bilateral and/or multilateral arrangements supporting the programmes.

3. Subregional or joint action programmes may include agreed joint programmes for the sustainable management of transboundary natural resources relating to desertification, priorities for coordination and other activities in the fields of capacity building, scientific and technical cooperation, particularly drought early warning systems and information sharing, and means of strengthening the relevant subregional and other organizations or institutions.

