

# National Strategies to Combat Desertification in the Kalmyk Republic of the Russian Federation and Kazakhstan

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## ABSTRACT

The United Nations Convention to Combat Desertification requires governments to involve local communities in implementing strategies to reduce the effects of desertification through National Action Programmes. 80% of the area of the Kalmyk Republic of the Russian Federation is now in the process of desertification with half severely affected. UNEP has provided financial and technical support for the formulation of a National Action Programme for the Kalmyk Republic. A European Aridity Centre was set up with the local contributions. A project has also been initiated for the reclamation of the Black Lands and stabilization of moving sands. The government of Kalmykia has also initiated the setting up of an Association of Arid Regions of Russia to stimulate action at a Russian level to assist other areas with similar problems. Details of the National Action Programme in Kazakstan are also discussed.

## INTRODUCTION

The United Nations Convention to Combat Desertification (CCD) was adopted in Paris on 17 June 1994 and came into force on 26 December 1996. The objective of the Convention is "to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements, in the framework on an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in affected areas".

The Convention commits governments to involve populations and local communities fully in decisions on the design and the implementation of programmes to combat desertification and/or mitigate the effects of drought. Parties to the Convention are required under Article 10 to develop National Action Programmes (NAPs) to combat desertification and mitigate the effects of drought.

## NAP PROCESS IN KALMYKIA

The countries of Eastern Europe, the Caucasus and Central Asia constitute one of the most extensive areas affected by the spread of desertification and drought.



The dark shadow of desertification has now fallen upon Europe, which once seemed far removed from the problems so prevalent in Africa and Asia. Desertification, the process of degradation of dry farmland, is starting to affect many European countries. Russia, the largest country in Europe, is no exception: already more than 100 million hectares are either affected by desertification or under threat of it.

Desertification processes are already well under way in the Astrakhan, Volgograd and Rostov regions, the Altai krai (administrative area) and the Republics of Tyva and Dagestan, while parts of the Krasnodar krai and the Stavropol krai have also been affected. Areas under threat include land in the southern part of the steppe zone in the Voronezh, Saratov, Orenburg, Omsk, Chelyabinsk and Chita regions, and the Republics of Khakasia and Buryatia (Figure 1).

Perhaps the worst situation, however, is to be found in the Kalmyk Republic, the most arid region of the European part of the Russian Federation. Over 80% of its territory is now in the grip of desertification, and almost half is either severely or very severely affected. These levels are surpassed only by the deserts of Central Asia.

Degradation of the once unique pastures of the Black Lands of the Republic has led to the first man-made desert in Europe, with areas of open and blown sand. Satellite photography confirms that large quantities of this sand are blown well past the boundaries of the Republic during dust storms, reaching the borders of European countries beyond Russia (Figure 2).

Figure 1  
Map of Kalmykia

The main reasons for soil degradation are wind and water erosion, desertification, water logging and secondary salination (Figure 3). The recently growing pattern of geochemical soil pollution is another factor to be taken into account.

Currently, there are some 2.5 million hectares of eroded soils in the Republics, of which more than 0.5 million hectares are affected by water erosion and 2 million hectares by wind erosion. More than 130 000 hectares are waterlogged. The area of secondary soil salinization amounts to 105 800 hectares.

In 1993, the president of the Kalmyk Republic declared a state of emergency in response to a major deterioration in the state of the environment. The crisis resulted from intensive land degradation and a shortage of water, together with increasing human pressure on the natural environment over the last few decades and extreme natural conditions, causing a decline in the health of the population, life-expectancy and the quality of life. These, in turn, threatened the gene pool of the Kalmyk people, and pointed the way towards ecological extinction.

Figure 2  
Moving sand area in Kalmykia



Figure 3  
Soil salinization caused by  
underground water, Kalmykia



The main aim of the programme is to identify the factors contributing to desertification, and the practical measures necessary to combat it and to mitigate the effects of drought. The programme also specifies the respective roles of government, local communities and land users, what resources are needed, and which are available. Within the NAP in Kalmykia, the priority project proposals were also developed and two of them have already been initiated for implementation with federal, local and UNEP financial assistance.

Following the declaration of a state of emergency, UNEP provided subsequent financial and technical support to formulation of the National Action Programme to Combat Desertification in the Kalmyk Republic, drawn up in line with the main principles of the United Nations Convention to Combat Desertification.

The NAP developed in Kalmykia, largely through the efforts of locally-based scientists, has been approved by the Government of the Republic. The next task is to ensure that it is smoothly integrated into the Republic's plans for social and economic development.

One of the Programme's projects, presented and accepted at the eighth session of the International Negotiating Committee for the Elaboration of an International Convention to Combat Desertification by the president, was for the creation of a European Aridity Centre.

Setting up a European Aridity Centre in Kalmykia, the region most vulnerable to desertification in the continent, is considered as one way of addressing the problem as it affects European countries. One important argument in favour is that this unique natural environment is unmatched in the world and provides an opportunity to preserve the steppe region gene pool, a genetic data bank for the planet.

The idea is supported by Russian and foreign scientists, and was approved by the Russian Academy of Sciences at the touring conference on the Problems Associated with Studying Arid Ecosystems and Combating Desertification held in Elista, Kalmykia in November 1995.

A wide range of measures to prevent land degradation and drought has already been carried out in Russia. Work is going on in the Astrakhan region, the Dagestan Republic and the Kalmyk Republic to implement the

Federal Programme entitled "A general plan to combat desertification of the Black Lands and the Kizlyar Pastures", while in Volgograd the Institute of Forest and Land Improvement is making good progress on the implementation of the general plan. By presidential decree, large-scale planting operations are carried out every spring and autumn in desertified areas in the Kalmyk Republic, work is being done to optimize the network of protected natural areas, and so on.

Within the NAP in Kalmykia, UNEP is supporting the implementation of a project on the reclamation and management of the Black Lands and the stabilization of moving sands in Kalmykia.

In a drive to promote ratification of the CCD by Russia and catalyse action, UNEP has assisted with awareness-raising activities in the region by supporting the locally produced newsletter on desertification. In addition, the Kalmyck sequences of a film made for UNEP by Television Trust for Environment (TVE) and financed by the Government of Norway, have been repackaged in Russian. Accompanied by a booklet and posters, the film is being disseminated to schools throughout the steppe region. Another film in Russian on the problem of shifting sands invading south-eastern Europe (Figure 4) has also been made, with an English version produced to ensure a wider dissemination.

**Further Initiatives**

The government of Kalmykia has also announced an initiative to set up an Association of Arid Regions of Russia and to establish a Special Federal Programme to protect areas of the Russian Federation from the processes of degradation. The aims are to stimulate action at a Russian level to combat desertification, to improve the effectiveness of measures by agreeing National Action Programmes and to draft recommendations for creating and implementing subregional, regional and joint Action Programmes for Russian conditions in line with the United Nations Convention. This idea has been warmly welcomed in the other regions of Russia that are worried about the state of their land.

These initiatives were supported by UNEP who provided financial and technical support assistance for the development of subregional action programmes for the southern European (Kalmykia, Dagestan and



Figure 4  
23 villages covered by moving sand in Kalmykia

Tatarstan Republics, Volgograd, Astrakhan, Saratov and Samara regions) and Asian (the Republics of Tuva, Khakass and Buriatia) parts of the Russian Federation.

The subregional action programme for the European part of the Russian Federation has already been completed and the Asian part will be completed next year.

### NAP PROCESS IN THE REPUBLIC OF KAZAKSTAN

In accordance with the United Nations Convention to Combat Desertification, the National Action Programme to Combat Desertification in the Republic of Kazakstan has been developed by the Ministry of Ecology and Bioresources of the Republic of Kazakstan with financial and technical support from UNEP in 1996-1997.

The NAPCD was developed with the participation of leading scientists, prominent specialists from different ministries, agencies and scientific organizations of

Kazakstan who joined the Task Force under the Ministry of Ecology and Bioresources of the Republic of Kazakstan (Figure 5).

### The Status of Desertification

Desertification takes place in a significant part of the Republic's territory, which has already resulted in negative social and economic consequences. At present, 179.9 million hectares, or 60% of the country's territory, suffer from desertification to a greater or lesser extent. Further degradation of the natural environment against a background of increasing global climate aridity will inevitably lead to irreversible loss of biodiversity, a reduction of land fertility, and a corresponding deterioration in living standards (Figure 6).

Unfortunately, the simultaneous unfavourable effects of both natural and anthropogenic factors have led to the acceleration and spread of desertification:

- the ploughing of low-productive sandy loam and saline soils during the period of virgin land development has resulted in its devaluation and the appearance of dust storms;
- intensive irrigation in the south of Kazakstan has led to erosion and the secondary salinization of soils in the river flood-lands;
- the degradation of pasture lands was the result of overgrazing;
- the development of mining, metallurgical and chemical industries has inevitably resulted in the degradation of lands (soils are contaminated with heavy metals, oil products and pesticides);
- there is direct evidence of the threat of elimination of a unique area containing sub-arid lands, steppe and piedmont ecosystems. About 50% of the land is in the process of desertification.

### National Action Programme in Kazakstan

The territory covered by the Republic of Kazakstan is extensive, lying as it does in the centre of Eurasia. It extends for 2000 km north to south, from Western Siberia to the hot dry deserts and the highest mountains of Middle Asia, and for 3000 km from west to east, from the Volga's steppes to Altai with different climatic conditions and types of desertification. The problem of desertification of Kazakstan's territory extends across its national boundaries to neighbouring states and includes the consequences of activity at the Semipalatinsk nuclear testing ground, the drying Aral Sea, the rising level of the Caspian Sea, and the activities of military and space research complexes.

Kazakstan understands that to combat desertification it is important to develop its economic structure, promote environmental protection and raise living standards.

The National Action Programme to combat desertification in the Republic proposes tackling the joint problems of economics and ecology (Figure 7) and includes the following:

- Monitoring of desertification by means of creating a network of ecological stations which will receive complex information and analyse ecological problems.
- Assessment of desertification and drought and their ecological, economic and social consequences in order to adopt adequate measures.

Figure 5  
National Action Programme (NAP)



Figure 6 (bottom)  
Degradation of pastures in Kazakstan

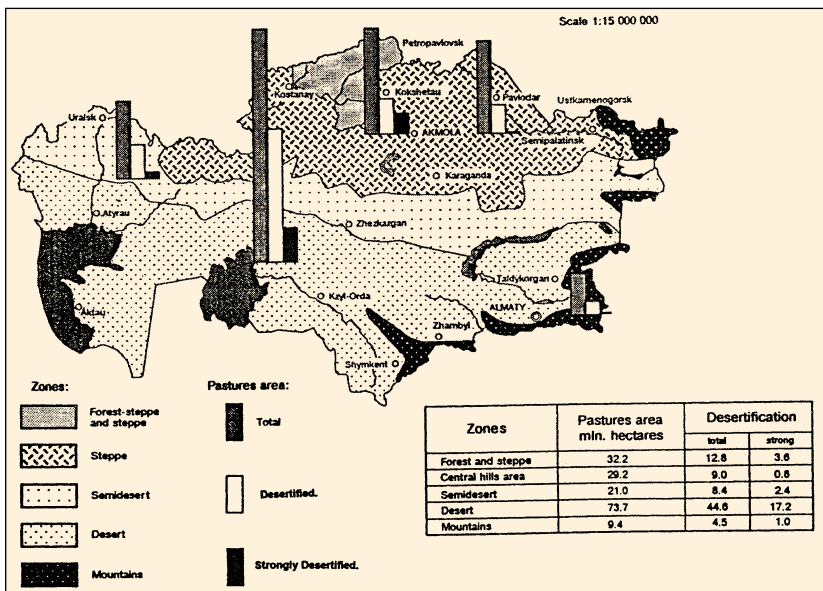


Figure 7  
National workshop on NAP  
implementation



- Assisting territories to organize themselves to prevent soil degradation, by protecting pastureland against water and wind erosion, salting, dehumidification, pollution and other types of degradation.
- Restoring the fertility of arable lands and rangelands and recultivation of lands used for industrial activities.
- Developing a system for the reclamation of territories.
- Elaborating laws on ecology and national norms in order to prevent degradation of natural ecosystems.
- Introducing/strengthening the ecological study of desertification problems in schools, institutes and universities.
- Implementing concrete regional projects to overcome the effects of desertification.

The Programme to combat desertification cannot take into account all regional features and the variety of conditions in Kazakstan; therefore regional strategies will need to be worked out.

Combating desertification and caring for the preservation of natural resources are issues confronting the whole state. Such problems can be solved with the active participation of the State's administrative, legislative and executive organs as well as with cooperation from NGOs and the local population.

Within the CCD, UNEP also provided financial and technical assistance in formulation of the National Action Programmes in Uzbekistan and Turkmenistan Republics in 1997-1998.

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**IF YOU HAVE ANY ENQUIRIES REGARDING THE  
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