



**International Fund for Saving the Aral Sea**

**Interstate Sustainable Development Commission**

**SCIENTIFIC-INFORMATION CENTER**

**UNEP**

## **SUB-REGIONAL INTEGRATED ENVIRONMENT ASSESSMENT: CENTRAL ASIA**

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# FOREWORD



The United Nations Environment Programme (UNEP) is mandated to regularly assess major environmental developments and trends. This mandate has been practically implemented through Global Environment Outlook (GEO) process with global, regional, sub-regional, national and even city-level assessments. The GEO process is participatory, consultative and features capacity building at its core.

This gives GEO assessments the necessary scientific accuracy, credibility and authority to provide information for environmental management and policy development to a wide target audience.

The capacity building programme of the GEO process has been highlighted in the Bali Strategic Plan for Technology Support and Capacity Building, an agreed intergovernmental framework to strengthen capacity and provide technology support to developing countries and countries with economies in transition.

The implementation of the Bali Strategic Plan is an important opportunity for UNEP to work with partners to strengthen national structures for environmental reporting as a basis for decision making.

The Integrated Environmental Assessment (IEA) Report of Central Asia is one of the outputs of UNEP's capacity building programme. The report identifies key environmental issues for Central Asia (covering Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan), including land degradation, water resources, and loss of biodiversity.

These issues have been analyzed by various experts, including scientists, academics and civil society representatives, to determine their policy making implications.

This broad-based participatory process brings both subregional and national environmental issues to the attention of different stakeholders and to the general public. I hope this report will provide a sound basis for decision making by the Governments of Central Asian countries in addressing environmental issues at the policy level and in advancing the sustainable development agenda of the sub-region.

UNEP has also been assisting Central Asian countries to conserve the environment with collaborative activities on environmental monitoring and early warning, capacity building and raising environmental awareness. I would like to express my gratitude to all the Governments and associated experts, especially the Scientific Information Centre (SIC), a GEO Collaborating Centre, of Interstate Sustainable Development Commission, for this fruitful collaboration.

A handwritten signature in dark ink, which appears to read 'Achim Steiner'. The signature is fluid and cursive, with a large initial 'A'.

Achim Steiner

United Nations Under-Secretary General and Executive Director  
United Nations Environment Programme

# LIST OF ABBREVIATIONS

<b>ADB</b>	Asian Development Bank	<b>NGO</b>	Non-Governmental Organisation
<b>ABC</b>	Asian Brown Cloud	<b>ODS</b>	Ozone Depleting Substances
<b>BAM</b>	Basin of Aral Sea	<b>OECD</b>	Organization for Economic Cooperati- on and Development
<b>CA</b>	Central Asia	<b>PA</b> s	Protected Areas
<b>CAS</b>	Central-Asian Subregion	<b>PPP</b>	Parity Purchasing Power
<b>CAREC</b>	Central Asian Regional Environmental Centre	<b>REAP</b>	Regional Environmental Action Plan
<b>CDW</b>	Collector-Drainage Waters	<b>SIC</b>	Scientific Information Centre
<b>COE</b>	Coefficient of efficiency	<b>SD</b>	Sustainable Development
<b>DSS</b>	Decision Support System	<b>SPAN</b>	Specially Protected Areas of Nature
<b>FAO</b>	Food and Agriculture Organization of the United Nations	<b>TORP</b>	Turkmenbashi Oil Refinery Plant
<b>FEC</b>	Fuel-Energy Complex	<b>UN</b>	United Nations
<b>GEF</b>	Global Environment Facility	<b>UNSDC</b>	United Nations Sustainable Develop- ment Commission
<b>GEO</b>	Global Environmental Outlook	<b>UNDP</b>	United Nations Development Progr- amme
<b>GIS</b>	Geographic Information System	<b>UNEP</b>	United Nations Environment Progra- mme
<b>GNP</b>	Gross National Product	<b>UNEP/ RRC-AP</b>	UNEP/Regional Resource Centre for Asia and the Pacific
<b>HPS</b>	Hydroelectric Power Station	<b>UNDESA</b>	United Nations Department on Econ- omic and Social Aspects
<b>HPP</b>	Heat and Power Plant	<b>UNESCO</b>	United Nations Educational, Scientific and Cultural Organization
<b>IFAS</b>	International Fund for Aral Sea	<b>USSR</b>	Union of Soviet Socialist Republics
<b>ICWC</b>	Interstate Commission for Water Coo- rdination	<b>USA\$</b>	Dollar of the United States of America
<b>ISDC</b>	Interstate Sustainable Development Commission	<b>WHO</b>	World Health Organization
<b>KSTC</b>	Kyrgyz Scientific-Technical Center		
<b>MPCs</b>	Maximum Permissible Concentrations		

## INTRODUCTION

The Central Asian sub-region consists of the following sovereign countries – Republic of Kazakhstan, Kyrgyz Republic, Republic of Tajikistan, Turkmenistan and Republic of Uzbekistan (Fig. 1).

After the collapse of former Soviet Union the Central Asian countries, with their identical historical, social and religious traditions have faced a number of similar economic, social and environmental problems.

Common environmental problems in the sub-region have galvanized the regional cooperation among the countries, which consider the move towards environmental security and sustainable development as priority. Taking into consideration the global significance of the Aral Sea disaster and overall critical environmental situation in Central Asia the heads of the States have concluded an Agreement on mutual actions on solving Aral Sea problem as well as improvement of environmental situation for better socio-economic development of the region. This Agreement was the first of its nature legal document aimed at introduction of sustainable development concept of the Central Asian states under conditions of Aral Sea crisis.

Heads of the States have several times expressed their commitment to sustainable development having noted that provision of sustainability is a key prerequisite for socio-economic development of the Aral Sea basin. The Nukus (1995), Almaty (1997), Ashgabat (1999), and Dushanbe (2002) declarations have been signed.

Within the framework of IFAS activities the Heads of Central Asian countries conduct comprehensive analysis of the current state and development prospects of cooperation between the countries of sub-region.

Considering water as the main trans-boundary issue for the sub-region, the presidents of the States have agreed that water management component should have an eco-system approach and implemented in a harmless manner taking into account the interests of all countries. Besides it was proposed that water provision for population of the Aral Sea Basin should be a priority measure to improve social-ecological conditions.

There were two commissions established under the frame of International Fund for Aral Sea Saving (IFAS): Interstate Sustainable Development Commission

(ISDC), and Interstate Coordinating Water Commission (ICWC).

The ISDC is empowered to coordinate and manage regional cooperation in the field of environment protection and sustainable development in CA. The executive body of the ISDC is the Secretariat and the Scientific Information Center (SIC) with its branches in each of the states of Central Asia.

In February 2000 ministries of nature protection agencies of the states agreed to develop a Regional Environment Action Plan (REAP) with financial support from UNEP, UNDP and ADB and under coordination of ISDC. The document includes 5 environmental priorities and was initiated at the Ministerial Conference and approved by the Steering Committee of IFAS in September 2001. The most important aspect of the REAP is its conformity with the national environment strategies and plans of the States

SIC of ISDC as a regional body is assigned to provide expertise and information support as well as develop a Central Asian Decision Making Support System in the field of sustainable development and REAP.

In 2004 the ISDC turned to UNEP soliciting its support for the implementation of REAP and development of Central Asian Convention on Environment for Sustainable Development.

In June 2000 under the ISDC decision SIC was granted a status of the Collaborating Center of UNEP/GRID-Arendal and the Regional Collaborating Center for Global Environmental Outlook (GEO-3). Within this decision, under the support of UNEP, SIC has elaborated subregional CA component for GEO-3, in which Central Asia was included for the first time. In addition, SIC has issued in English and Russian the GEO-3 Regional Outlook and National Reports of the CA countries. The Reports contained retrospective assessment of environmental changes by components for the last 30 years; general information about natural and socio-economic conditions of the countries; strategic steps undertaken for the improvement of reciprocal influence of natural and anthropogenic factors; system of environment management; directions of improvement of international cooperation in the field of environment protection.

Problems of environment protection and resources conservation still remain to be extremely critical and versatile. The earlier published «Global Environmental Outlook – GEO-3» gave a deep assessment of the

state of environment, determined the most priority trends and proposed recommendations of important measures to keep environment intact and to conserve the nature. However, in spite of the steps taken in this direction, implementation of the relevant conventions, programs and projects progresses at a slow pace. Apparently, this is the result of underestimation of the danger, in which environment situation happened to be, and low financing of environmental and resource-saving technologies on the regional and national levels. Recently, countries have developed national programs and action plans in this field but they are implemented in different countries in various extents, and often at the lack of the complex regional approach.

It is common knowledge that human society's development is part and parcel of the state of environment, its balance and well-being. Nevertheless, in many regions the excessive pressure of anthropogenic factors on ecosphere turns out to be of enormous dimension and inhibits self-regulative functions of

nature that is the prime cause of disturbance of the balanced environmental system and deterioration of economic and social conditions.

Such phenomena, taking place all over the world, are also typical for the Central Asian sub-region. For the first time the population of the sub-region faces serious environmental situations, as the nature of Central Asia mainly easily yields to desertification processes. The most active desertification processes is observed in the Aral Sea Zone. The main cause of this is the excessive use of water for irrigation in the Amudarya and Syrdarya basins that has also resulted in the drying of the Aral Sea leading to negative environmental processes on the entire sub-region and neighboring states.

During the last decade there was a number of projects implemented aiming at mitigating the impact of the Aral Sea disaster. However, the Aral Sea environmental and socio-economic crisis hasn't been surmounted.

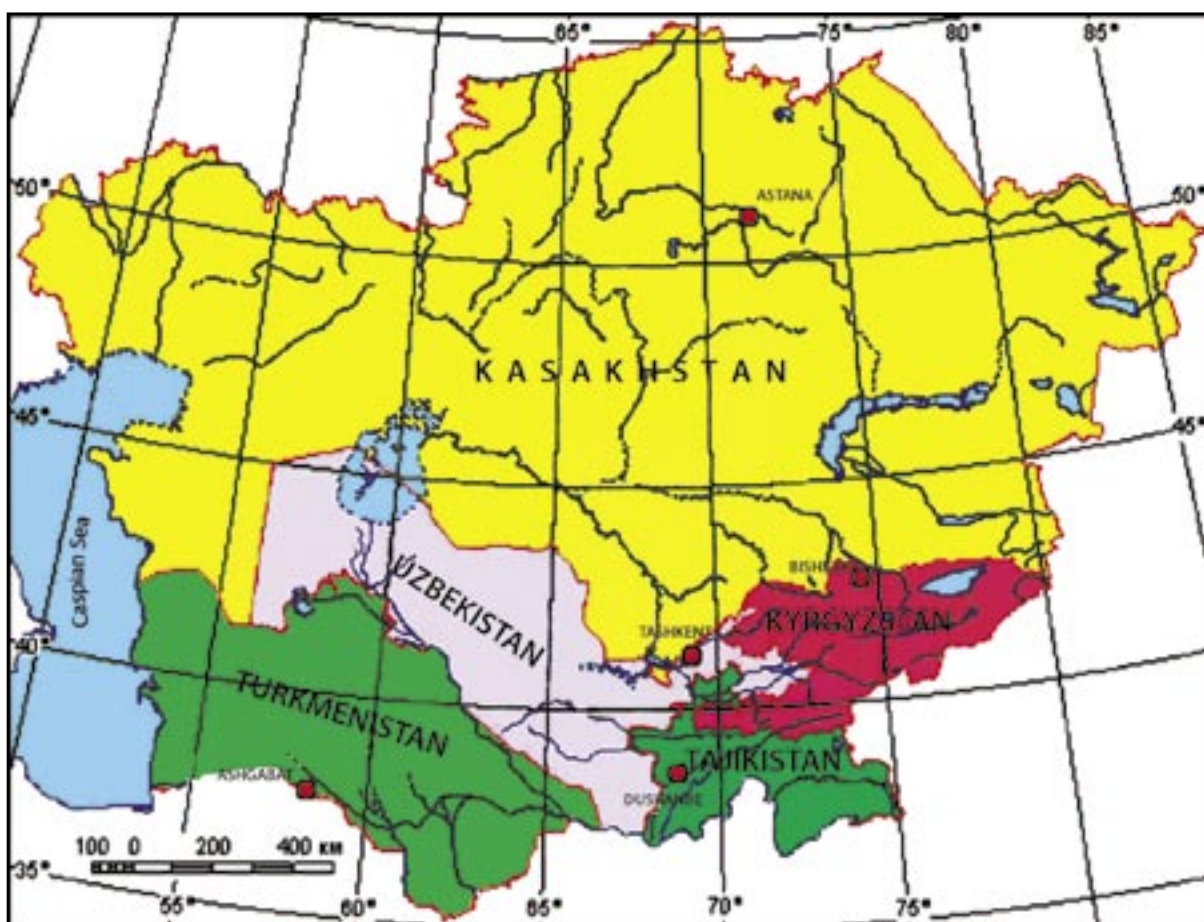


Fig. 1. Central Asia States

As before, problems as land degradation, worsening water quality, genetic changes in species, efficiency decrease of irrigated farming and many others are still observed. Environmental situation in the Aral Sea basin has negative direct and indirect impacts on the living conditions of many millions of people inhabiting the sub-region.

During 1990s countries of Central Asia faced numerous problems related to the collapse of the Soviet Union and destruction of political, economic and social relations between former Soviet Republics. Therefore, new independent countries had to establish new institutes, approaches and working skills for functioning in conditions of the serious economic crisis. All countries searched for their ways of addressing this difficult situation. It is clear that under these conditions they were not able to pay the appropriate attention at the state and quality of environment. Nevertheless, all five Central Asian countries attach paramount importance to the regional cooperation in solving a number of serious environmental problems arising from the Aral Sea and improving the living conditions in the Aral Sea Zone. The countries prepared and published their plans and strategies of environmental security and sustainable development, in which they clearly determined the main approaches to the solution of issues of environment protection and rational nature management.

Addressing economic and social development problems requires new approaches to integration and coordination of activities at all levels. However this issue often faces indifference and irresponsibility of decision-makers that causes anxiety and concern. Reasons restraining implementation of environmental measures are known for a long time, but they are not comprehended by many decision makers at the national and regional levels as well as by majority of local population. Naturally, the successes of Central Asian countries during the years of independence in the field of environment

protection and rational nature management shouldn't be underestimated. However, it is premature to say that they are of sustainable nature. Unfortunately, the majority of managers and many groups of the population developed skeptical attitude to the policy of environmental security and sustainable development.

Main environmental problems such as policy of land use improvement, combating desertification, conservation of biological and landscape diversity, health care of the population and others impact sustainable development of Central Asian countries.

Central Asia is known as a sub-region with fast growing population. For instance, at the end of 19th century the number of the population here was about 8 million people and now it amounted to 59 million people or during more than 100 years the population of the sub-region has grown up more than 7 times. So, anthropogenic pressure on environment also steadily grows.

Having huge natural and economic potential Central Asian sub-region attracts high attention of the world community. Therefore the problems of environmental security and sustainable development are one of the strategical issues for five countries of this sub-region within implementation of the REAP.

In this report the latest data are presented and conducted integrated analysis of linkages between the environment and social and economic development of the Central Asian states. The assessment focuses special attention to the issues of interaction in the system "Man-Nature", environmental crisis issues and top-priority environmental tasks and nature-saving technologies.

Integrated assessment of the state of environment in Central Asian Sub-region has been prepared by the Scientific-Information Center of the Interstate Sustainable Development Commission

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