

**MINISTRY OF ECOLOGY AND EMERGENCIES
OF THE KYRGYZ REPUBLIC**

**FIRST NATIONAL COMMUNICATION
OF THE KYRGYZ REPUBLIC
UNDER THE UN FRAMEWORK
CONVENTION ON CLIMATE CHANGE**

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The following institutions participated in the preparation of the First National Communication:

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 State Forestry Department
 State Energy Agency
 Kyrgyz Housing Union
 State Committee for Tourism, Sports and Youth Policies
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PREFACE

On behalf of the Ministry of Ecology and Emergencies of the Kyrgyz Republic I have the honour of presenting the First National Communication of the Kyrgyz Republic prepared for the Conference of the Parties to the UN Framework Convention on Climate Change.

In January 2000, recognising the importance of the climate change issue and the necessity of joint efforts of states to mitigate its adverse effects internationally, the Kyrgyz Republic joined the UN Framework Convention on Climate Change.

The First National Communication describes a current state of Kyrgyzstan in terms of the climate change issue. The National Communication outlines climate change trends in Kyrgyzstan identified on the basis of available long-term hydro-meteorological observations. Scenarios of expected climate change were designed according to global climatic models. The results of the first national greenhouse gas inventory covering a period of 11 years (1990-2000) are also presented in the Communication. A vulnerability assessment of the environmental and economic system of Kyrgyzstan was conducted and adaptation measures in various sectors of the economy are suggested. Measures on greenhouse gas emissions abatement are coordinated with National Development Programmes. An action strategy matrix in several directions with economic evaluation of suggested measures was designed.

Kyrgyzstan considers this National Communication as a first step in the actual implementation of the UNFCCC in the Republic. The Communication suggests that Kyrgyzstan's influence on global climate change is minor, but the forecast economic development lacking the relevant measures will considerably magnify the impact. Besides, a number of important sectors of its ecological and economical system are highly vulnerable to the prospective climate change.

Therefore, Kyrgyzstan intends to continue further research in climate change, to the extent possible promote development and dissemination of emission reduction technologies, preserve and expand greenhouse gas removals by sinks. In addition, the Republic will consider climate change issues in its relevant social, economic and environmental programmes, co-operate in scientific, technical and education fields, enhance education and public awareness, and exchange information on climate change issues.

We are aware of the fact that these measures may require immense political, financial and organisational inputs. Kyrgyzstan as a developing country relies on the support of the UNFCCC parties and international organisations in implementation of these measures.

Minister of Ecology and Emergencies
of the Kyrgyz Republic



S.Chyrmashev

Bishkek,
December 2002

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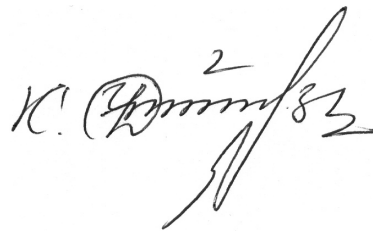
We express our gratitude to the Global Environment Facility and the United Nations Development Programme for their financial, technical and organisational assistance in preparing the country's First National Communication on Climate Change.

We are grateful to the experts from the UNDP Country Office, the UNFCCC Secretariat, the Intergovernmental Panel on Climate Change, the UNDP/GEF National Communications Support Programme, other international organisations for their consulting, manuals and information resources provided, as well as for the software, which in many respects contributed to successful implementation of the current National Communication preparation.

We address our gratitude to all ministries and state bodies of the Kyrgyz Republic, which participated in the National Communication preparation, for assistance of their experts and provision of the necessary information.

We feel grateful to the co-ordinators of the working groups, all project participants, consultants, national and international experts who contributed a considerable amount of time and effort to collect, process, and analyse the extensive information necessary for preparing the National Communication.

National Project Director



K. Januzakov

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ABBREVIATIONS



| | |
|--------------|---|
| CLM | Combustive-lubricating Materials |
| FER | Fuel and Energy Resources |
| FES | Fuel and Energy Sector |
| GCM | Global Climate Model |
| GDP with PPP | Gross Domestic Product with Purchasing Power Parity |
| GDP | Gross Domestic Product |
| GEF | Global Environment Facility |
| GHG | Greenhouse Gas |
| GWP | Global Warming Potential |
| HPS | Hydroelectric Power Station |
| IPCC | Intergovernmental Panel on Climate Change |
| MV | Motor Vehicles |
| NCV | Net Calorific Value |
| NDS | National Development Strategy till 2010 |
| NMVOC | Non-Methane Volatile Organic Compounds |
| NPRS | National Poverty Reduction Strategy (for 2003-2005) |
| NTRES | Non-Traditional and Renewable Energy Sources |
| TPS | Thermal Power Station |
| UNDP | United Nations Development Programme |
| UNFCCC | United Nations Framework Convention on Climate Change |
| WMO | World Meteorological Organisation |

SUMMARY

Introduction

This Communication has been prepared within the framework of the GEF/UNDP project # KYR/00/G31 “Enabling the Kyrgyz Republic to prepare its first National Communication in response to its commitments to the UN Framework Convention on Climate Change”.

The UN Framework Convention is a part of Millennium Goals stated in the Declaration of the Millennium. Sharing and supporting the goals of the world community, the Kyrgyz Republic declared these goals in its national legislation, namely, in the laws “On Environmental Protection” and “On Protection of the Atmosphere”, and “On Joining the UN Framework Convention on Climate Change”.

The First National Communication covers the following basic areas:

- GHG inventory by emission sources and removals by sinks of gases not controlled by the Montreal Protocol;
- main climate indicators forecast for Kyrgyzstan with the increase of GHG concentrations in the atmosphere on the basis of global climatic models;
- vulnerability assessment of the main sectors of the Kyrgyz economy and natural ecosystems on the basis of forecasted climate change and elaboration of adaptation measures;
- definition of potentials of GHG emission reduction and sinks increase, elaboration and assessment of measures aimed at mitigating the impact on climate;
- improvement of education and public awareness on climate change issues.

The year 1990 was taken as a base year.

Preliminary outcomes of accomplished activities were discussed and approved at interdepartmental workshops, in which representatives of all interested ministries, state bodies, organisations, NGOs of the Kyrgyz Republic, and international experts participated.

National Circumstances

The Kyrgyz Republic is located in the centre of the Asian continent, in the north-east of Central Asia between 39° and 43° north latitude and 69° and 80° east longitude. The Republic borders on Kazakhstan in the north, on China in the south-east and east, on Tajikistan in the south-east, and on Uzbekistan in the west. The length of the Kyrgyzstan’s borders is 4,508 km, its total area is 199,900 km². The highest point of the Republic is the Pobeda peak (7,439 m) and the lowest is 350 m above the sea level. The average height of the Republic above the sea level is 2,750 m. About 94% of the territory is located above 1,000 m, 90% – above 1,500 m, and 40% – above 3,000 meters above sea level. All natural features of Kyrgyzstan are determined by these high mountains – the climate, landscapes, soils, water resources, flora and fauna, as well as social and economic conditions of life.



The population density in the Kyrgyz Republic (24 persons per km²) is relatively low, compared to that of other countries. However, only 19% of the total area of the Republic can be described as a habitable area (comparatively comfortable), 35% as habitable, but not prime living area, and the remaining 45% as inhospitable terrain, unsuitable for human habitation.

The Kyrgyz Republic is a unique region of Central Asia in term of biodiversity. There are more than 500 species of invertebrates, including 83 species of mammals, 368 species of birds, 28 species of reptiles, 3 species of amphibians, 75 species of fish, 3,000 species of insects, and more than 4,500 species of higher plants. A relatively small area of the Republic is represented by a significant diversity of biocenosis. 0.4 species of mammals, 1.8 species of birds, 0.14 species of reptiles, 0.23 species of fish account for 1,000 square km in Kyrgyzstan, while these figures are notably smaller in neighbouring countries.

The territory of the Kyrgyz Republic as a high mountain ecological system is especially susceptible to natural and anthropogenic influence. Nine out of twenty most dangerous natural processes are widespread in Kyrgyzstan. These are earthquakes, landslides, mudflows, floods, lakes in danger of bursting, stone falls, land-slips, under-flooding, and avalanches.

The Kyrgyz Republic is a typical high mountain country with an arid continental climate and a large temperature range. Along with this, separate parts of its territory differ dramatically from one another. Four climatic zones are clearly distinguished: North and Northwest Kyrgyzstan, Southwest Kyrgyzstan, Issyk-Kul basin, and Inner Tien-Shan. A significant climate-forming factor is high mountain ranges, predominantly of sub-latitude location, separated by deep valleys and basins.

Table S.1. General information on the Kyrgyz Republic

| Indicator | Units of measurement | 1990 | 1992 | 1994 | 1996 | 1998 | 2000 |
|--|-----------------------|-------|-------|-------|-------|-------|-------|
| Population as of the end of year | mln people | 4.42 | 4.53 | 4.52 | 4.66 | 4.81 | 4.91 |
| Urban population | % | 37.5 | 36.9 | 35.6 | 35.1 | 34.8 | 34.8 |
| Population density | people per sq.km | 22.1 | 22.6 | 22.6 | 23.3 | 24.0 | 24.6 |
| Gross National Product | USD per capita | - | 820 | 610 | 550 | 350 | - |
| Gross Domestic Product, total | USD per capita | - | 810 | 610 | - | - | 279 |
| including: | | | | | | | |
| industry | % | 26.4 | 32.1 | 20.5 | 11.1 | 16.3 | - |
| agriculture | % | 32.7 | 37.3 | 38.3 | 46.2 | 35.9 | - |
| construction | % | 7.7 | 3.9 | 3.4 | 6.0 | 4.5 | - |
| transport and communications | % | 4.8 | 2.6 | 4.1 | 4.1 | 4.1 | - |
| trade and food production | % | 4.0 | 3.5 | 9.7 | 10.4 | 12.6 | - |
| Officially registered unemployed | % | - | 0.5 | 1.6 | 3.1 | 2.2 | 3.0 |
| Population literacy level | % | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 98.7 |
| Life expectancy at birth | years | 68.5 | 68.27 | 65.42 | 66.65 | 67.15 | 68.5 |
| Infant mortality rate | per 1,000 life births | 30.0 | 31.62 | 29.62 | 26.58 | 25.99 | 22.6 |
| Population having access to safe drinking water, | % | - | - | - | 81.3 | 86.5 | 81.5 |
| including: | | | | | | | |
| Urban | % | - | - | - | 98.4 | 95.0 | 99.1 |
| Rural | % | - | - | - | 73.7 | 74.2 | 72.1 |
| Water consumption, total | mln m ³ | 8,993 | 8,953 | 8,257 | 6,871 | 6,420 | 4,976 |
| including: | | | | | | | |
| industrial needs | mln m ³ | 623 | 526 | 277 | 153 | 138 | 48 |
| irrigation and agricultural needs | mln m ³ | 8,076 | 8,143 | 7,671 | 6,359 | 5,963 | 4,749 |
| household-drinking water needs | mln m ³ | 294 | 253 | 293 | 357 | 309 | 182 |