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Biodiversity Conservation and  
Millennium Development Goals (MDGs)  
in Kyrgyz Republic

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## **Abstract**

This paper analyses the current status of biodiversity conservation in Kyrgyz Republic (Kyrgyzstan, KR) in response to policy developments related to the Convention on Biological Diversity (CBD), how the country is implementing the National Biodiversity Strategy and Action Plan (NBSAP) and the links to achieving the Millennium Development Goals (MDGs). Kyrgyz Republic has rich biodiversity and is one of the world's centres of origin for cultivated plants like walnuts, apples, pears, cherry-plums, apricots, pomegranates, grapes, raspberry bushes, currant bushes, tulips, onions and ornamental flowers. However the country is faced with several developmental challenges that places enormous pressure on its natural resources and biological diversity. Biodiversity is being lost at an alarming rate due to direct or indirect human activities and habitat loss. In addition, land degradation and desertification also contribute to social and economic problems such as unemployment, food insecurity, migration and political instability. There are relatively high poverty levels with about 40.8% of the population below the poverty line.

Several national and regional projects have promoted economic development, poverty reduction and biodiversity conservation in the recent years in Kyrgyz Republic. It has been recognized that improving environmental management to reduce poverty requires local understanding of how environmental conditions relate to poverty, identification of policy options and evaluation of their effectiveness and impact. For achievement of the MDGs in Kyrgyz Republic it is necessary to: a) integrate Sustainable Development (SD) principles in policy and education programmes; b) involve local communities in decision making processes; c) improve the competence and skills of experts/teachers on SD and Education for SD; and d) increase public awareness on biodiversity conservation and sustainable development.

There are several policy documents for biodiversity conservation in Kyrgyz Republic. There are the National Environmental Action Plan (NEAP, 1995), the Regional Environmental Action Plan (REAP) and the National Biodiversity and Action Plan (NBSAP, 1998). The NEAP provides a guiding framework in environmental conservation and management in the country. It identifies the priority action-fields of land degradation, water management, deforestation and biodiversity conservation. The NEAP links biodiversity conservation with land degradation, agricultural and rural development efforts focusing on market-based farm restructuring and commercialization, and salinization. However, the NEAP, NBSAP and REAP have very weak links with national actions and policies related to realizing the MDGs.

## **Key Words**

Millennium Development Goals, Biodiversity, National Biodiversity Strategy and Action Plan, 2010 Targets, Kyrgyz Republic (Kyrgyzstan, KR)

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## **Abbreviations**

<b>Term</b>	<b>Subject</b>
ADB	Asian Development Bank
CAMP	Central Asian Mountains Programme
CAREC	Central Asian Regional Environmental Centre
CDF	Comprehensive Development Framework
CPO	Country Project Office
EBRD	European Bank Reconstruction and Development
EC	European Commission
GDP	Gross domestic product
GTZ	German Society for Technical Cooperation
IMF	International Monetary Fund
IPR	Irradiate poverty reduction
KR	Kyrgyz Republic
MDG	Millennium Development Goals
NPRS	National poverty reduction Strategy
NCSA	National Capacity self-assessment for global Environment management
NGO	Non-governmental organisation
OECD	Organisation for Economic Cooperation and Development
PES	Payment for ecosystem services
SAEPE KR	State Agency of Environmental Protection and Forestry of the Kyrgyz Republic
TK	Traditional Knowledge
UNDP	United Nations Development Programme
UNGA	United Nations General Assembles
UNICEF	United Nations Children's Fund
USAID	US Agency for international Development
WB	World Bank

## 1. Introduction

The Kyrgyz Republic (Kyrgyzstan, KR) is a small (198.5 km<sup>2</sup>) landlocked country in the centre of Eurasia and shares borders with Kazakhstan, Uzbekistan, Tajikistan and China. About 40% of the country is uninhabitable and features glaciers, perpetual snow-cover, rocks, rocky deserts and high mountains. Kyrgyz Republic is dominated by mountains including the mountain ranges of the Tien-Shan, Alay and Pamir, with over 90% of the country above 1,000 meters altitude. There are diverse ecosystems supported by unique assemblages of plants and animals surviving in a continental climate of cold winters, hot summers and low precipitation.<sup>1</sup>

The country is divided into seven administrative provinces called oblasts (Chui, Issyk-Kul, Osh, Talas, Jalal-Abad, Naryn and Batken.), headed by governors. After the fall of Soviet Union, the republic faced severe constraints with respect to economic downfall and increasing deterioration of natural resource base. Hyperinflation, rising unemployment, and a reduction in real incomes led to dramatic rises in poverty.<sup>1</sup> The population is largely rural, dependent on agricultural crop production and animal husbandry for livelihoods and nutrition. However agricultural and industrial production still is underdeveloped, leaving the economy vulnerable to natural disasters and external shocks

**Map 1: Kyrgyz Republic**



<sup>1</sup> Economic and financial data for KR, national Statistic Committee KR 2007 <http://www.stat.kg/nsdp/index.htm>

The macroeconomic situation in Kyrgyzstan is slowly improving (Table 1.). The population of Kyrgyz Republic is 5.1 million, with a population growth rate of about 1.1%. Of the population, 45% are between 5 and 19 years of age. Poverty continues to be a serious issue, but considerable progress has been made in combating it with the index of absolute poverty declining from 44.4% in 2002 to 40.8% in 2003 due to a 14% increase in average real wages, improved agriculture production, and price stability.<sup>2</sup> Kyrgyz Republic economic performance represented by gross domestic product GDP growth 7.0% - (4.1% from agriculture, 11.7 %from services and 3.7% from industry).

**Table 1 Kyrgyz Republic: Economic Indicators, 2001-2005**

<b>Economic Indicator</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Per capita GNI (\$)	280	290	340	400	.....
GDP growth (% change per year)	5.3	0.0	7.0	7.0	-0.6
CPI (% change per year)	6.9	2.0	3.0	4.0	4.4
Unemployment rate	7.8	8.6	9.0	9.0	9.0
Fiscal balance (% of GDP)	-5.0	-5.4	-5.1	-4.3	-4.2
Export growth(% change per year)	-6.0	3.7	18.5	24.2	-6.4
Import growth (% change per year)	-13.1	25.4	31.1	25.0	24.0
Current account (% of GDP)	-1.3	-2.2	-4.2	-3.4	-8.1
External debt (% of GNI)	117.7	119.5	109.8	.....	.....

...+ data not available. GNI=gross national income, GDP=gross domestic product, CPI+ consumer price index.  
Source: ADB.2006. Asian Development Outlook, 2006. Manila ADB Statistical Database System

Agricultural products and hydroelectric power are exported for economic benefits. The country's most important export product is gold, which represents 45% of annual exports.<sup>3</sup> Kyrgyzstan's transition from 1991 has been traumatic due to high external debts and large budget deficits threatening the country's long-term development. A large and growing inequality has been a worrying trend, with rural-urban internal migration exacerbating the cycle of poverty. Infant mortality rates are 1.8 times greater in the poorest 20% of households than in the wealthiest 20%, and child mortality is almost twice as great.<sup>4</sup> Despite these indicators, the Government has achieved a reduction in state expenditures, which has partially relieved the economic deterioration. Recent developments in the country seem to show progress towards planning to realize the Millennium Development Goals (MDGs)<sup>5</sup> that were

<sup>2</sup> ADB Report and Recommendation of the President to the Board of Direction January 2007 project number 38298

<sup>3</sup> ADB Central Asian Development Outlook, 2005

<sup>4</sup> ADB Country Strategy and Program Update, Kyrgyz Republic (2006-2008), 2005

<sup>5</sup> <http://www.undp.org/mdg/basics.shtml>

adopted by the United Nations General Assembly (UNGA) in the year 2000<sup>6</sup>. The set of eight Goals adopted by countries provide a time-bound framework for countries to achieve sustainable development by the year 2015 with a set of targets to be achieved by countries. The MDGs, as a framework for national development planning, provide unprecedented opportunity to focus on poverty reduction and to mobilize private investment to help countries develop and implement effective poverty reduction strategies, including MDG 7 on environmental sustainability.<sup>7</sup>

## **2. Overview – Biological diversity and Development in Kyrgyz Republic**

On a global scale the Kyrgyz Republic occupies only 0.03% of the world land mass and 0.13% of the dry land area. However it has 2% of the world's flora and 3% of its fauna occur in the country. Kyrgyz Republic has a high concentration of plant and animal species and its ecosystems and landscapes are relatively undamaged.<sup>8</sup> Scientists have classified 26 ecosystems and 160 types of highland and flatland landscapes inhabited by 50,000 species of organisms. To date, about 166 viruses and bacteria, 3,676 types of fungi and other lower plant, 3,786 of higher plants, 101 species of protozoa, 10,242 insects and other arthropods, more than 1,500 other invertebrates, 75 species of fish, 4 amphibians, 33 reptiles, 368 birds, and 83 mammals are registered.<sup>9</sup> The Kyrgyz Republic has an extensive gene pool for future use by plant and animal breeders, to breed to better adaptation and use.

The Kyrgyz Republic is one of the world centers of origin for cultivated plants like onions walnuts, apples, pears, cherry, plums, apricots, pomegranates, grapes, raspberry bushes, currant bushes, tulips, and other ornamental flowers and bushes. There are diverse ecosystems ranging from deciduous forests, meadows, swamps to steppes and deserts. Rare animal species include the grey monitor lizards (*varanus griseus*), ibis-bills (*ibidorhyncha struthersii*), marbled polecats (*vormella peregusna*), snow leopards (*felis uncia*), and brown bears (*ursus arctos isabellinus*) occur in the country. Ninety-two animal species and sixty five plant species are included in the Red Data Book first published for Kyrgyzstan in 1987.<sup>10</sup> Mountain forests play an important water regulation and soil protection, biodiversity conservation and ecological stability role, however there is 4.25% forest cover having been

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<sup>6</sup> Millennium Development Goals Report, 2003. UNDP. Bishkek

<sup>7</sup> Sustaining the Environment to fight poverty and achieve the MDGs; the economic case and priorities for action. UNDP report.2005 <http://www.povertyenvironment.net> (last look at May 8.2007)

<sup>8</sup> Shukurov Emil. Biodiversity problem in Kyrgyzstan. NAN KR. 1997. Eho nauki, Bishkek

<sup>9</sup> Shukurov Emil, Sadykova Chinara and others. Kyrgyzstan Biodiversity: Overview. 2000 Bishkek.

<sup>10</sup> Kyrgyz Republic Red Book, Bishkek 2005

reduced from 8% over the last 70 years. This reduction was accompanied by soil erosion, landslides, and destruction of mountain slopes for agriculture land. From 1938 to 1942, (in accordance with a Government Order) more than 140,000 cubic meters of walnut wood were cut.<sup>11</sup>

**Table 2 Dynamic Forest Area of the Kyrgyz Republic**

Year	1930	1966	1978	1988	1990	2003	2015
Forest covered area, in %	8	3.09	3.27	3.98	4.75	4.25	4.75

*Source: Regional Forestry Congress, November 25-27, 2004. Bishkek*

Today, Kyrgyzstan's forests are under pressure from human activity. Deforestation pressures arise from uncontrolled logging, grazing of livestock, and cutting for high quality walnut wood. In addition, collection of fuel wood, forest fires and unregulated harvesting of medical herbs and wild animals for the Chinese herbal medicine market are posing a major threat to the country's ecosystems. Details of such factors are presented in Table 2. The Government adopted the Forest Code of the Kyrgyz Republic in 1999 which recognises that forests are integral to a number of natural cycles and are necessary elements of broader landscapes. The main purpose of enacting the Forest Code is the preservation, protection and reproduction of forests as well as rational use through effective management structures.<sup>12</sup> The Government therefore has the role of both conserving the forests and licensing the rights and responsibilities of non-timber forest product for extractive and sustainable use purposes. In April 2004, the Government of the Kyrgyz Republic approved the concept of the Forest Sector Development. Furthermore the National Forest Program for 2005-2015 with sustainable development principles was adopted and plans to increase forest area to 4.75% by 2015.<sup>13</sup>

<sup>11</sup> State Registry Report of the KR, 2005, Bishkek

<sup>12</sup> The Forest Code of the Kyrgyz Republic, 1999, Bishkek KR: Jogorku Kenesh, #66, July 1999

<sup>13</sup> Concept of Forest sector Development in Kyrgyz Republic. 2004. Bishkek

**Table 3 Factors that Influence on Sustainable Biodiversity Use in Kyrgyz Republic**

Areas	Factors Natural		Factors Man-made		
Ecosystems	Fires	Floods, mudflows	Overgrazing	Over-withdrawal	Roads and Tourism
Pasture ecosystems	Deterioration, soil outwash	Local damage	Deterioration	Local damage	Local damage
Forest ecosystems	Deterioration, soil outwash	Local damage	Lack or reduction of rehabilitation	Local damage, disturbed rehabilitation	Local damage
Game resources	Forest reduction and degradation	Local damage	Competition, disturbance, zoonosis, stock reduction	Reproduction abnormality, disappearance in areal, stock reduction	Local damage
Fish resources	No	Local damage	Water quality deterioration, reproduction reduction	Reproduction abnormality, disappearance in areal, stock reduction	Local damage
Medicinal herbs	Reduction	Local damage	Diversity and stock reduction	Diversity and stock reduction	Local damage
Genetic resources	Reduction	Local damage	Reduction	Reduction	Local damage

Source: *Third National Report, SAEPF KR/GEF/CBD/UNDP Bishkek 2005*

Kyrgyzstan has a rich agrobiodiversity gene pool consisting of 8,000 samples including 7,000 cereals, and 300 vegetables and potatoes. Kyrgyz Republic is one of few former Soviet Union countries that developed its animal husbandry based on indigenous genetic resources. There are 3 races of sheep, 2 races of cattle, 1 race of horses, 2 races of goats, and 1 race of chicken in the country.<sup>14</sup>

### 3. Implementation of National Biodiversity Strategy and Action Plan

The Convention on Biological Diversity (CBD) was signed by 150 government leaders at the 1992 Rio Earth Summit. The Convention is dedicated to conservation of biological diversity, sustainable use of its components and the fair and equitable sharing of benefits arising from such use.<sup>15</sup> In July 1996 Kyrgyzstan signed the Convention on Biological Diversity and with financial support from the World Bank; and the Global Environment Facility (GEF) in

<sup>14</sup> *Third National Report, SAEPF KR/GEF/CBD/UNDP Bishkek 2005*

<sup>15</sup> <http://www.biodiv.org/convention>

association with the Flora and Fauna International, a National Biodiversity Strategy and Action Plan (NBSAP) was also developed<sup>16</sup>. The overall aim of NBSAP is the “*conservation and sustainable use of biological and landscape diversity in the Kyrgyz Republic for sustainable social and economic development*”. The Plan contains an analysis of the existing organizational structures, and the legislative base for the biodiversity conservation in Kyrgyzstan and proposes specific recommendations to improve the existing baseline.

The NBSAP outlines many constraints to the implementation of the CBD in Kyrgyzstan. These include:

- Lack of financing for biodiversity research thus there is no full assessment of biodiversity status and threats;
- Insufficient legislation, unqualified staff and low salaries have resulted in poor management of protected areas;
- Repeated reorganization of organizations responsible for implementation of conservation activities leading to a lack of continuity in project implementation;
- Weak inter-sectoral interaction which hinders coordinated activities between main stakeholders - often there is duplication of environmental protection activities and conflicts on use and protection of biodiversity; and
- Gaps in the current legislation on environmental protection and lack of a law enforcement mechanism.

Despite these challenges, the National Biodiversity Action Plan is still an important guiding framework for achieving environmental sustainability, achieving the MDGs and reaching the Global Biodiversity 2010 Target. Furthermore the NBSAP is important as it can:

- Provide key information about the biodiversity of the Kyrgyz Republic;
- Raise awareness of the importance of biodiversity;
- Attract financial and political support for activities that protect biodiversity;
- Direct national efforts to conserve biodiversity.

The NBSAP also relevant to environmental sustainability as it:

- provides tools for biodiversity conservation and sustainable use;
- provides guidance on economic, political support needed for biodiversity conservation;
- raises the profile of biodiversity;
- can secure political and administrative support for biodiversity actions;
- promotes the implementation of the CBD;
- promotes participatory process to involve local communities in decision-making; and
- provides a focus for fundraising.

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<sup>16</sup> National Biodiversity Strategy and Action Plan (NBSAP) 1998. Bishkek p.160

Linking conservation measures to poverty reduction (as called for through the MDG framework) is important for biodiversity conservation and sustainable development. A framework such as the NBSAP cannot be ignored in achieving the MDGs in general and particularly MDG 7. The NBSAP aims to increase the protected area cover from 8% to 10% of total territory which is an indicator of MDG Goal 7 achievement (ensure environmental sustainability). From 1990-2001, more than 10% of the forests was lost due to human activity, however the State Forestry Services developed a program of forest protection up to 2010.<sup>17</sup> From 2000-2005 new protected areas were established covering more than 100 thousand hectares. However, because of lack of financing, poor management and staff deficiency, management of protected areas is still a problem.

Since Kyrgyz Republic gained its independence, international organizations have been working in the country on biodiversity conservation, and sustainable environmental development. Globally, the objectives of the CBD and the 2010 targets (adopted during the CBD Conference of Parties in the year 2002 to reduce the rate of loss of biodiversity and by the year 2010 achieve poverty reduction) are to be translated into policies and concrete actions through the agreement of guidelines and the implementation of work programs. Effective implementation of the NBSAP provides the needed platform to progress in this direction. National programmes for biodiversity conservation in Kyrgyz Republic have been funded with international support since 1995. Having ratified several global environmental conventions such as the CBD, Kyrgyzstan sought to fulfil its obligations through the implementation of several related projects. The projects' activities contributed to the 2001-2010 Comprehensive Development Framework (CDF). Some of the activities supported protected areas infrastructure, scientific studies on flora and fauna, public awareness campaigns and local communities' participation.

Kyrgyzstan's 2005 Third National Report to the CBD describes the current biodiversity situation in Kyrgyz Republic. It notes that the NBSAP implementation is challenged by a shortage of state funds, and an incomplete and an unstable institutional base for cooperation. There are new conservation initiatives in the country such as the European Commission project - Pamir-Alai Trans-boundary Conservation Area in Tajikistan and Kyrgyzstan – a project to create a new conservation area in Pamir-Alai trans-boundary mountain ecosystem

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<sup>17</sup> National Forest program for 2001-2015, Bishkek 2004.

(started in autumn 2006). Despite these new regional projects there is still need for nationally driven action on biodiversity conservation. There is a crucial need for Kyrgyzstan to effectively implement the NBSAP and if possible revise the NBSAP to deal with achieving the 2010 targets and the MDGs. This revision should be a governmental priority in environmental policymaking and can be used to raise awareness of stakeholders about the importance of biodiversity conservation capacity development.

#### **4 Realizing National Commitments: Environment and Development Policies in Kyrgyzstan**

The principle of sustainable development arises from the recognition that the needs of current generations must be reconciled with those of the future, and the realisation that this requires dealing with economic, environmental and social policies in a mutually reinforcing way. The question of sustainability arises as a direct response to concerns about issues of pollution, irreversible changes to ecosystems and climate, deforestation, fisheries, water supplies, biodiversity and other natural resources. Sustaining these resources is also a prerequisite for social reforms that respect the rights of women, children and indigenous people. In 1998 Kyrgyzstan produced a National Strategy on Sustainable Human Development (NSSHD) which identified key goals and objectivities such as: decentralization, overcoming the main threats to human security; reducing poverty; economic development; environmental protection, human and social capacity building; and society integration.<sup>18</sup> The following year the Concept of Environmental Safety of the Kyrgyz Republic was approved, with the obligation that state authorities should revise their attitude to environmental problems and undertake strong measures to ensure environmental safety of the country.

A Comprehensive Development Framework (CDF) for the Kyrgyz Republic was developed supported by the World Bank for the period 2001-2010. The Framework outlines specific measures required for improvements in the political, social and economic conditions.<sup>19</sup> These measures are reflected in an action matrix elsewhere in this paper.

A National Strategy on Poverty Reduction was also developed for the period 2003-2005. Unfortunately the Poverty Reduction Strategy did not take into account the importance of

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<sup>18</sup> NSSHD 1998 <http://www.undp.kg/english/publications>

<sup>19</sup> Comprehensive Development Framework of KR to 2010. Bishkek 2001

ecosystems in improving the basic human capabilities of the poorest.<sup>20</sup> Based on the National Poverty Reduction Strategy, a Country Strategy and Program Update (2006-2008) was developed by the Asian Development Bank. This Country Strategy seeks to deal with poverty reduction, primarily by promoting private sector led economic growth and selectively supporting human development for the achievement of the MDGs.<sup>21</sup>

Kyrgyz Republic enacted several environmental legislations aimed at effective natural resources management. Some of the important ones are described in Table 4 below. These seek to facilitate the sustainable use of biodiversity in a manner that contributes to better management of environment.

**Table 4. Environmental Legislation of Kyrgyz Republic**

Law of Kyrgyz Republic “On Protected Areas” as of May 28, 1994, № 1561-XII
Land Code of the Kyrgyz Republic as of April 30, 1999
Law of the Kyrgyz Republic “on Fauna” as of June 17, 1999, № 59
Resolution of the Government of the Kyrgyz Republic “On Approval of the Regulation on State Control on Environmental Protection and Rational Use of Natural Resources and provision of Ecological Safety of the Kyrgyz Republic” as of May 25, 2000, № 295
Decision of the Security Council of the Kyrgyz Republic “On state, draft Concept and measures on provision of ecological security of the Kyrgyz Republic” as of August 4, 1997
Strategy on Biodiversity Conservation of the Kyrgyz Republic approved by the Resolution of the Government of the Kyrgyz Republic as of August 3, 2002, № 524
Action Plan to 2010 for Agenda 21 of the Kyrgyz Republic as of August 2, 2002, № 411-p
National Review RIO plus 10 on assessment of outcomes of progress of the Kyrgyz Republic to Sustainable Development approved by the Resolution of the Kyrgyz Republic as of August 2, 2002, № 411-p
Forest Code of the Kyrgyz Republic as of July 8, 1999, № 66 (in the version of the Laws of the Kyrgyz Republic as of June 28, 2003, № 119, 120, March 3, 2005, № 41)
National Forest Program for 2005-2015 approved by the Resolution of the Government of the Kyrgyz Republic as of November 25, 2004, № 858
Concept of the forest sector development of the Kyrgyz Republic approved by the Resolution of the Government of the Kyrgyz Republic as of April 14, 2004, № 256
Law of the Kyrgyz Republic “on flora” as of June 20, 2001, № 53
Law on basic rates of unified agricultural tax on the right to use agricultural land №104 as of December 7, 2001
Resolution of the Government of the Kyrgyz Republic “on approval of the regulation on State Control on environmental protection and rational use of nature resources and provision of ecological safety of the Kyrgyz Republic” as of May 25, 2000, № 295
Law of the Kyrgyz Republic “On Water User Associations” as of March 15, 2002.
Law of the Kyrgyz Republic “On Agricultural Land Management” as of January 11, 2001

<sup>20</sup> ADB Country Strategy and Program Update. Kyrgyz Republic (2006-2008), Bishkek 2005

<sup>21</sup> Report Millennium Ecosystem Assessment. 2005 Ecosystems and human well-being: Synthesis, WS DC

Law of the Kyrgyz Republic “On Environmental Protection” as of June 16, 1999
Law of the Kyrgyz Republic “On Environmental Expertise” as of June 11, 2003.
Law of the Kyrgyz Republic “On Guarantees and Free Access to Information” as of December 5, 1997
Law of the Kyrgyz Republic “On rate of fee for environmental protection (emissions, discharges, waste disposal)” as of March 10, 2002, №32
State program “Land” to 2005; approved by the Resolution of the Government of the Kyrgyz Republic as of August 17, 1998, №548
Resolution of the Government of the Kyrgyz Republic “On approval of the regulation on procedure of pasture use and leasing” №360 as of June 4, 2002
Resolution of the Government of the Kyrgyz Republic “On monitoring of the agricultural lands” as of March 1, 1999

*Source: Third National Report, SAEPF KR/GEF/CBD/UNDP Bishkek 2005*

Kyrgyzstan has recognized that its economic prosperity and social well-being depends largely on its natural resources thus Kyrgyz Republic developed its 1995 National Environmental Action Plan (NEAP). The NEAP emphasizes the importance of collection and dissemination of trustworthy information on the state of the environment to facilitate decision-making and support appropriate measures (especially those involving large expenditure). The NEAP defines long-term objectives and priority goals a three year period. It represents the official policy of the Kyrgyz Republic in environmental protection and defines major environmental problems such as the unsustainable use of natural resources and the negative impact of pollution on public health. Kyrgyzstan is one of the richest countries in the Central Asia in terms of water resources. The Issyk-Kul Lake is the world's fifth deepest lake; there are Chatyr Kul, Son-Kul and Sary Chelek lakes; the rivers Naryn, Chy, Talas, Aksu in high altitude mountains and many other small rivers. Therefore, the NEAP focuses on land degradation, water management, deforestation and biodiversity conservation. In outlining actions to address land degradation, the NEAP also looks at integrating agricultural and rural development efforts with focus on market-based farm restructuring and commercialization.<sup>22</sup>

In addition to a recognition of the importance of Agricultural Development in the NEAP, Kyrgyz Republic also prepared a draft National Program of Agricultural Development in KR for 2000-2010<sup>23</sup> which aims to:

1. Ensure food security;
2. Provide the processing industry with agricultural raw materials; and
3. Enhance agricultural export potential.

<sup>22</sup> National Environmental Action Plan (NEAP). World Bank. Bishkek 1995

<sup>23</sup> Agrarian Policy Concept of the KR to 2010. Bishkek 2003, Ministry of Agriculture, Water Resources and Processing Industry

In 2004 Japan supported procurement of agricultural equipment for 2.2 million dollars for increasing food production. The World Bank Village Investments project also supports job-creating investments in economic and social village infrastructure and in group management small enterprises.

The Asian Development Bank 2004 Country Environmental Assessment also identified environmental threats as the NEAP. The assessment reported on: (i) land degradation; (ii) cross-cutting issues of environmental management, disaster protection and energy management; and (iii) mainstreaming environmental considerations into broader economic development planning policymaking and programming. In support of national environmental actions and plans there is a Regional Environment Action Plan for the Central Asian Republics (REAPCAR).<sup>24</sup> Five priority issues were identified for Regional Action. These are:

- Mountain ecosystem degradation;
- Air pollution;
- Land degradation;
- Water pollution; and
- Waste management.

Kyrgyzstan has also influenced international conservation efforts. On the initiative of Kyrgyzstan, the UN General Assembly announced 2002 as the International Year of Mountains in the framework of the Rio de Janeiro Declaration, thus recognizing the importance of mountainous ecosystem.

## **5. The Millennium Development Goals in Kyrgyz Republic**

In 2000, the UN General Assembly (UNGA) adopted the Millennium Development Goals (MDGs) as a set of measurable goals and targets to achieve sustainable development by 2015, as set out in the Millennium Declaration signed by Heads of State, including the Kyrgyz Republic. The MDGs explicitly recognize the interdependence between growth, poverty reduction and sustainable development; acknowledge that development rests on the foundations of democratic governance, the rule of law, respect for human rights and peace and security. They are based on time-bound and measurable targets accompanied by indicators for monitoring progress and bring together, in the eighth Goal, the responsibilities of developing countries with those of developed countries, founded on a global partnership

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<sup>24</sup> <http://www.rrcap.unep.org/centralasia/>

endorsed at the International Conference on Financing for Development in Monterrey, Mexico in 2002, and again at the Johannesburg World Summit on Sustainable Development in August 2003.<sup>25</sup> There are eight Millennium Development Goals:

- Goal 1: Eradicate extreme poverty and hunger
- Goal 2: Achieve universal primary education
- Goal 3: Promote gender equality and empower women
- Goal 4: Reduce child mortality
- Goal 5: Improve maternal health
- Goal 6: Combat HIV/AIDS, malaria and other diseases
- Goal 7: Ensure environmental sustainability
- Goal 8: Develop a Global Partnership for Development

The Millennium Development Goals, the National Comprehensive Development Framework and National Poverty Reduction Strategy are all seen to guide the preparation of the Common Country Assessment (CCA, 2003)<sup>26</sup> for Kyrgyzstan. The CCA identified three broad areas of focus and cooperation for Kyrgyzstan:

1. Poverty;
2. Basic social services;
3. Vulnerable people.

In 2003 UNDP prepared the Kyrgyz Republic Millennium Development Goals Progress Report. This report measured the progress made and drew lessons from efforts to achieve significant improvements of people's lives (see *Annex 3* which shows the country response for MDGs achievement). The Comprehensive Development Framework aims to improve the legislation for environmental management. It also proposed:

1. To develop decentralized approaches for management of mountainous ecosystem;
2. Improve management in protected areas and increase forest cover area to 4.75% from total country territory;
3. Mitigate environmentally damaging subsidies exist in the energy sector; and
4. Improve access to drinking water by supporting a nationwide program of water supply in the KR.

The first national MDG report and a current draft of the second national MDG report indicate that all goals are potentially achievable. However the realization of the MDGs in Kyrgyzstan requires sustained political will from the Government and support through policy reforms and an increase in MDG related investments. An assessment by UNDP indicates that the international community should boost its commitment to Kyrgyzstan by re-channeling more aid for the MDGs, ensuring effective coordination, and increasing the external financial

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<sup>25</sup> The Millennium Development Goals Report, UN 2005

<sup>26</sup> UNDP/Common Country Assessment. Bishkek. 2003.

assistance for the MDGs.<sup>27</sup> An effective response would involve: enhancement of key ecosystem services which contribute to human well-being; investment in agriculture science and technology that can sustain a necessary increase of food supply; implementation of national programs negotiated by stakeholders; building of institutional market mechanisms and payment for ecosystem services; and an improvement in communication and education.

#### **a. The 2010 Targets and KR**

At the sixth meeting of Conference of Parties to the CBD held in the Hague (Netherlands, 2002), countries agreed to adopt a set of targets supported by indicators to reduce the rate of loss of biodiversity for poverty reduction by the year 2010 (the 2010 targets). Further, at the Eight Meeting of the Conference of Parties to the Convention on Biological Diversity (COP 8) in Curitiba (Brazil, 2006), a 'roadmap' to achieve the previously set 2010 Biodiversity Target was agreed to "*achieving a significant reduction in the rate of loss of biological diversity by 2010, as a contribution to poverty alleviation and the Millennium Development Goals*".<sup>28</sup> The Global Biodiversity Forum session held during the COP 8 meeting in Curitiba also called on the Conference of Parties to commit themselves to a more effective and coherent implementation of the objectives of the CBD, to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth<sup>29</sup> and to link such actions with achieving the MDGs by 2015.

Countries agreed on a framework to enhance the evaluation of achievements and progress in the implementation of the Strategic Plan of the Convention during COP 8 of CBD.<sup>30</sup> The framework includes 7 focal areas:

1. Reducing the rate of loss of the components of biodiversity;
2. Promoting sustainable use of biodiversity;
3. Addressing the major threats to biodiversity, including those arising from invasive alien species, climate change, pollution, and habitat change;
4. Maintaining ecosystem integrity, and the provision of goods and services provided by biodiversity in ecosystems, in support of human well-being;
5. Protecting traditional knowledge, innovations and practices;
6. Ensuring the fair and equitable sharing of benefits arising out of use of genetic resources; and

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<sup>27</sup> UNDP/Government of the KR. 2006 Country Program Action Plan for 2005-2010. Bishkek 25 p.

<sup>28</sup> [www.panos.org.uk/global/cbd2006\\_about.asp](http://www.panos.org.uk/global/cbd2006_about.asp)

<sup>29</sup> 37<sup>th</sup> Global Biodiversity Forum 8<sup>th</sup> Conference of the Parties to the Convention on Biological Diversity 24-25 March; Curitiba, Brazil. [www.gbf.ch](http://www.gbf.ch)

<sup>30</sup> Strategic Plan of the CBD 2006.26 March COP6

7. Mobilizing financial and technical resources, especially for developing countries, for implementing the CBD and the Strategic Plan.<sup>31</sup>

The Millennium Development Goals and the 2010 Targets are intricately linked. Achieving the MDGs depends on progress towards the 2010 targets, and the success of the 2010 campaign in turn depends on progress towards the MDG targets. At COP8 the Global Biodiversity Forum recognized the relevance of biodiversity to achieve most of the MDGs. MDG 7 provides the key framework for focusing on biodiversity and environment. However, the MDG 7 framework needs more clarity and indicators that would support enhanced focus on biodiversity and ecosystem services. COP 8 declared national governments and experts should provide support in identifying specific targets 2, 3, 6 and 10 and indicators that will help better integration of biodiversity across all MDGs. Realizing that, there are indicators available for monitoring progress towards 2010 targets, such indicators should be used more effectively to assess progress towards achieving MDGs at national level. These indicators should mainstream biodiversity and development.<sup>32</sup> Besides the COP called for a resolution at UNGA to include the CBD 2010 target as a MDG target. The 61<sup>st</sup> session of UNGA had already put forward proposals to this effect.

Kyrgyzstan has made progress in responding to the MDG targets and the 2010 Target. The table below highlights the key responses of Kyrgyzstan to this effect.

**Table 5 Relationship between 2010 Goals and Targets and MDGs Targets and Indicators**

2010 Goals and Targets	Kyrgyz Republic Response for 2010 Goals and Targets and MDGs Targets
<b>Protect the components of biodiversity</b>	
<p><b>Goal 1. Promote the conservation of the biological diversity of ecosystems, habitats, and biomes</b>            Target 1.1. At least 10% of each of the world's ecological regions effectively conserved.            Target 2.1.2.: Areas of particular importance to biodiversity protected.</p>	<p><b>Target 9. .. reverse the loss of environmental resources</b></p> <ul style="list-style-type: none"> <li>▪ For Kyrgyzstan the goal is to increase protected area to 10% of country territory; and increase Forest cover from 4.25% to 4.75%</li> <li>▪ Ongoing project on Ecological Networking in Central Asia Region is working towards this goal.</li> </ul>

<sup>31</sup> B.Psipati, R.Rubian. 2005. Linking the dots: MDGs and the 2010 Global Biodiversity Challenge Making Biodiversity Work for development: Assessment and Evaluation

<sup>32</sup> Implementing the 2010 Targets GBF Workshop Session "2010 for 2015: Reaffirming the role of biodiversity in achieving the Millennium Development Goals (MDGs)" [www.gbif.ch](http://www.gbif.ch)

<p><b>Goal 2. Promote conservation of species diversity</b>  Target 2.1.: Restore, maintain, or reduce the decline of populations of species of selected taxonomic groups.  Target 2.2.: Status of threatened species improves.</p>	<ul style="list-style-type: none"> <li>▪ Ongoing research on the loss of environmental resource, inventory of flora and fauna contribute to assessment data and for monitoring;</li> <li>▪ Inventory of animal biodiversity is concluded and plant inventory is being developed to support better monitoring of resources;</li> <li>▪ New Red Data book recently republished in 2005 to report the status of threatened species;</li> <li>▪ Project on implementing a new policy at major border crossings and in and near protected areas - The Pamir Alai Transboundary Conservation Area (PATCA) is ongoing to help deal with better conservation.</li> </ul>
<p><b>Goal 3. Promote the conservation of genetic diversity</b>  Target 3.1. Genetic diversity of crops, livestock, and harvested species of trees, fish, and wildlife and other valuable species conserved, and associated indigenous and local maintained,</p>	<p>Implementation of the UNEP/GEF project In Situ/On Farm Conservation of Agricultural Biodiversity (Horticultural Crops and Wild Fruit Species) in Central Asia contributes to this effort. This project defined the optimal and sustainable use of agricultural and improved welfare of the rural population.</p>
<p><b>Promote sustainable use</b></p>	
<p><b>Goal 4. Promote sustainable use and consumption.</b></p>	<p><b>Target 9: integrate the principles of sustainable development into country policies and program's and reverse the loss of environmental resources.</b></p>
<p>Target 4.1. Biodiversity-based products derived from sources that are sustainably managed, and production areas managed consistent with the conservation of biodiversity.</p>	<ul style="list-style-type: none"> <li>▪ Actions are under consideration but economic valuations are a pre-requisite for this.</li> </ul>
<p>Target 4.2: Unsustainable consumption of biological resources or that has an impact on biodiversity reduction</p>	<ul style="list-style-type: none"> <li>▪ Implementing Forest Concept and National Forest Program for 2001-2015 is expected to contribute to reducing unsustainable use of biodiversity.</li> </ul>
<p>Target 4.3: No species of wild flora or fauna endangered by international trade</p>	<ul style="list-style-type: none"> <li>▪ Ratification of CITES (2006) is seen as an important step to deal with illegal trade in species.</li> </ul>

<b>Address threats to biodiversity</b>	
<b>Goal 5. Reduction in pressures from habitat loss, land use change and degradation, and unsustainable water</b>	
Target 5.1: Rate of loss and degradation of natural habitats decreased	<ul style="list-style-type: none"> <li>▪ Undertaking measures on biodiversity conservation through ex situ and in situ conservation, botanical gardens through various projects;</li> <li>▪ Focusing for mountain ecosystem conservation is contributing to this target in addition to some of the activities described above.</li> </ul>
<b>Goal 6, Control threats from invasive alien species</b> Target 6.2.: management plans in place for major alien species that threaten ecosystems, habitats, or species.	<ul style="list-style-type: none"> <li>▪ Implementing Mountain ecosystem conservation research and projects, and future development of a Mountain ecosystem, Conservation Action Plan is expected to contribute this effort.</li> </ul>
<b>Goal 7. Address challenges to biodiversity from climate change and pollution</b>	
Target 7.1: Maintain and enhance resilience of the components of biodiversity to adapt to climate change  Target 7.2: reduce pollution and its impacts on biodiversity	<ul style="list-style-type: none"> <li>▪ Actions to deal with these issues are yet to begin. Some activities currently underway through other projects include increasing public awareness on importance of biodiversity and exploring the use of renewable energy sources and clean technology.</li> </ul>
<b>Maintain goods and services from biodiversity to support human well-being</b>	
<b>Goal 8. Maintain capacity of ecosystems to deliver goods and services and support livelihoods</b> Target 8.1. Capacity of ecosystems to deliver goods and services maintained	<ul style="list-style-type: none"> <li>▪ Ongoing project to increased forest plantation and fuel wood management commercialization of non-wood products with Swiss program support contributes to this effort;</li> <li>▪ Ongoing GEF/UNDP/Small Grants Projects in support for local communities and improving agriculture sector and development of a food security program with support from ADB can significantly deal with this issue if the projects are managed suitably.</li> </ul>
Target 8.2.: Biological resources that support sustainable livelihoods, local food security, and health care, especially of poor people, maintained.	<ul style="list-style-type: none"> <li>▪ Recognition of the need to improve cattle breeding, poultry keeping, and fishery programmes and development of medical plant plantation in on the increase but does not commensurate with investments being made to deal with livelihood support.</li> </ul>

<b>Protected traditional knowledge, innovations and practices</b>	
<b>Goal 9. Maintain socio-cultural diversity of indigenous and local communities</b>	
<p>Targets 9.1: Protected traditional knowledge, innovations, and practices.</p> <p>Target 9.2: protect the rights of indigenous and local communities over their traditional knowledge, innovation, and practices, including their rights to benefit sharing.</p>	<ul style="list-style-type: none"> <li>▪ Development of eco-tourism, handy craft production, and improve local services infrastructure, and involvement of women through the Central Asian Mountain Partnership (CAMP); and</li> <li>▪ the development of draft law “on traditional knowledge and related genetic resources” is seen to build capacity in the field of traditional knowledge and genetic resources, conduct scientific-research works to apply available genetic resources using traditional knowledge</li> </ul>
<b>Ensure the fair and equitable sharing of benefits arising out of use of genetic resources</b>	
<b>Goal 10. Ensure the fair and equitable sharing of benefit arising out of the use of genetic resources.</b>	
<p>Target 10.1: all transfers of genetic resources are in line with the CBD, the International Treaty on Plant Genetic recourse for food and agriculture, and other applicable agreements.</p> <p>Target 10.2: Benefits arising from the commercial and other utilization of genetic resources shared with the countries providing such resources</p>	<ul style="list-style-type: none"> <li>▪ No significant activity is being undertaken currently to deal with this issue.</li> </ul>
<b>Ensure provision of adequate resources</b>	
<b>Goal 11. Parties have improved financial, human, scientific, technical, and technological capacity to implement the Convention</b>	
<p>Target 11. 1: New and additional financial resources are transferred to developing country Parties to allow for the effective implementation of their commitments under the Convention, in accordance with Article 20.</p> <p>Target 11.2: Technology is transferred to developing country Parties to allow for the effective implementation of their commitments under the Convention, in accordance with Article 20</p>	<ul style="list-style-type: none"> <li>▪ International Fund of Aral Sea (IFAS) and Interstate Commission on Sustainable Development (ICSD) together with the Scientific-Information Center (SIC ICSD) are working in Central Asia and could contribute to achieving the goal.</li> <li>▪ There are ongoing activities through the Central Asian Regional Environmental Center (CAREC) - Regional Action Plan on Environmental Protection of the Central Asian Republics was developed and approved under UNEP support in framework of ICSD activity.</li> </ul>

Kyrgyzstan is actively participating in the Convention on Biodiversity Conference of Parties proceedings with the understanding of the importance the biodiversity conservation. However the CBD implementation is very slow in country with lack of funding and political support. With more external support for realizing the MDGs and to deal with national development, Kyrgyz Republic must integrate principles of sustainable development and implementation of CBD including the achievement of 2010 targets into all its national policies, strategies and programs to reverse the loss of biodiversity and related economic pressures.

### **b. Capacities to Achieving 2010 Target**

The objectives of the Biodiversity Convention and the 2010 target are translated into policies and concrete actions through the agreement of international guidelines and the implementation of work programs of the Convention and through National Biodiversity Strategies and Action Plans.<sup>33</sup> To achieve 2010 Targets, it will be necessary to secure a reduction in the rate of biodiversity loss – (as indicated by measures of a range of components or attributes?).

Improving environmental management to reduce poverty requires local understanding of how environmental conditions relate to poverty, and the ability to identify policy options and evaluate their effectiveness and impact. It is important that ecological sustainability and sustainable development (economic, social and environmental well-being) are linked.<sup>34</sup> In 2006 the Republic started the preparation of the second National Poverty Reduction Strategy and UNDP provided technical assistance with special attention on ensuring that this strategy is based on the national MDG targets to enhance targeting of the poor and other disadvantaged groups.<sup>35</sup>

As biodiversity impacts issues of poverty, focus on biodiversity conservation and sustainable use is fundamental to designing strategies and actions to eradicate poverty to achieve sustainable development in the long run. Poverty is closely related to the livelihoods and the vulnerability of households.

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<sup>33</sup> Ecosystems and Human Well-being: Biodiversity Synthesis 2005 /World Resource Institute, Washington DC p 85

<sup>34</sup> B.Pisupati, E.Warner Biodiversity and the Millennium Development Goals. IUCN Regional Biodiversity Program, Asia. 2004. 40 p.

<sup>35</sup> UNDP/Government of the KR. 2006 Country Program Action Plan for 2005-2010. Bishkek. 25 p.

## **6. Taking Forward the Biodiversity and Development Agenda in KR**

As Kyrgyzstan has rich biodiversity and ecosystems such biological resources could play an important role in the economy and traditions of the country. Traditional knowledge is widely applied with local people using about 600 plants and 200 medical plants for both subsistence and commercial extraction.<sup>36</sup> Despite several disjointed legal and policy documents which speak to biodiversity conservation in Kyrgyz Republic there are still considerable efforts to maintain research, implement educational programs and enhance public awareness of mountain ecosystem conservation.

The Country recognizes need for biodiversity conservation and the importance of linkages between various sectors (Table 6). Linkages between the MDGs and 2010 Target need actions and strategies to achieved their goals. The main challenges for the country will be to develop the sustainable supply of ecosystem services that could reduce poverty.

### ***a. Biodiversity and Poverty***

In Kyrgyzstan the protection of biological resources is regulated by the State Agency on Environment Protection and Forestry which makes new law proposals and amendments and comments to Kyrgyz Parliament (Jogorku Kenesh). The projects supported by donors are regulated through the State Committee with aims to respect the mountain ecosystem conservation that maintains traditional knowledge, supports sustainable use of biological diversity for achieving these goals and objectives.

People in Kyrgyz Republic living in rural areas are directly dependent on natural resources and biodiversity. Their income levels are low and poverty is many times abject. To achieve the MDGs in Kyrgyzstan, local population should be targeted and involved in design of conservation and development interventions and in the decision making process.<sup>37</sup>

### ***b. Biodiversity and Health***

There are considerable linkages between human health and biodiversity. These include:

- (i) biodiversity as the source of nutrition;
- (ii) biodiversity as a source for primary health care;

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<sup>36</sup> UNU-AIS Report “The Central Asia and Mongolia Bioresources and Biosecurity Network. (Capacity Development on Access to Genetic Resources, Benefit – Sharing, and Biosafety in Central Asia and Mongolia)’. 2004. Japan

<sup>37</sup> Comprehensive development Framework of KR to 2010, Bishkek 2001

- (iii) biodiversity as a contributor to a clean environment (air, water) provides good health.<sup>38</sup>

The CAMP project “Mountain herbs”<sup>39</sup> that was implemented in 2001 focused on medicinal herbs used by local communities and sources of information on the local use of medicinal herbs, natural resources management and how medicinal plants contribute to economic growth at the local level.. However, the demand for medicinal plants and other raw materials have increased leading to unsustainable harvesting and wastage of resources. Increasing consumption and demand for non-native drugs in Bishkek pharmacies also have impacted the usage of medicinal and herbal plants. Lack of market incentives, changing consumer patterns and deficient processing options have all led to the declining use of biodiversity as well as decreasing market profitability.

### *c. Biodiversity, Education and Gender Equality*

Education raises awareness of the public to deal with environmental management in a better and organized manner. Educational programs and projects will help to build the biodiversity knowledge of the population, including youth and children. Increasing public awareness of biodiversity conservation and sustainable nature use can reduce negative human impact on biodiversity. Specific focus on education will encourage changes in behavior that will create a more sustainable future in terms of environmental integrity, economic viability, and a just society for present and future generations.<sup>40</sup> Kyrgyzstan is focusing on developing new programs and curricula for universities, schools and colleges along with books and magazines on biodiversity and the capacity building of knowledge for educators can improve quality of teaching and quality of education. Improving knowledge of decision-makers has been recognized essential to achieving the objectives and goals of sustainable development programs. Women play a leading role in educating and raising children, thus increasing the role of women and involvement in sustainable development programs would contribute to MDGs achievement. Women and children involvement and ownership of nature conservation program can generate additional income in their family that could help to reduce poverty.

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<sup>38</sup> Biodiversity and livelihoods in Africa: Delivering on the Millennium Development Goals/ Report of the 4<sup>th</sup> Regional Session of the Global Biodiversity forum in Africa/www.gbf.ch

<sup>39</sup> [http://www.camp.kg/eng/old/report/herbs/herbs\\_tup.htm](http://www.camp.kg/eng/old/report/herbs/herbs_tup.htm)

<sup>40</sup> <http://www.unesco.org>

There are some international programs and projects supports the sustainable and multifunctional use of natural and human resources to the changing socio-economic and ecological requirements of Central Asian mountain regions.

The following is a table that describes some possible actions that can contribute to achieving the 2010 targets of reducing the rate of loss of biodiversity and achieve MDGs in Kyrgyz Republic. This compilation considers past, current activities on conservation action and development planning in the country and can be treated as a set of recommendations for linking the 2010 targets of CBD and the 2015 Goals on MDGs.

**Table 6 Actions and Strategies for Linking 2010 Targets and the Millennium Development Goals (MDGs) for Kyrgyz Republic**

CBD 2010 Goals and Targets	MDGs Targets and indicators	Kyrgyz Republic Actions and Strategies Needed for Linkages
<i>Goal 1. Promote the conservation of the biological diversity of ecosystems, habitats, and biomes.</i>	<b>Target 9. [...] reverse the loss of environmental resources.</b>	<b>Objective: Prepare, national status report on biodiversity</b>
Target 1.1: At least 10% of each of the world's ecological regions effectively conserved.	25. Proportion of land area covered by forest	Action: To conserve and rationally use forest resources and increase forest area to 4.75% of the total area
	26. Ratio of area protected to maintain biological diversity to surface area	Action: Develop and implement plans for capacity building of protected area range service and management plans once in 5 years
Target 1.2: Areas of particular importance to biodiversity protected.		Action: Develop mechanisms that incorporate stakeholders, experts in decision making process in management of protected areas
		Action: Develop measures to increase the protected area size and restore flora and fauna, productivity of forests, and pastures.
		Action: Implementation of the CA Ecological Network; develop biodiversity conservation through sustainable functioning of Eco-net.

<b>CBD 2010 Goals and Targets</b>	<b>MDGs Targets and indicators</b>	<b>Kyrgyz Republic Actions and Strategies Needed for Linkages</b>
<p><b>Goal 2. Promote the conservation of species diversity.</b></p> <p>Target 2.1: Restore, maintain, or reduce the decline of populations of species of selected taxonomic groups.</p> <p>Target 2.2: Status of threatened species improved.</p>	<p><b>Target 9. [...] reverse the loss of environmental resources.</b>  <b>Sub-target: Asses the impacts of species based conservation efforts on local livelihoods (link to MDG 1)</b></p>	<p><b>Objective: Develop and implement species protection action plans for key endangered species, habitats and ecosystems.</b></p> <p>Action: Conserve and restore the most important complexes of species, ecosystems and landscape required to attain natural and sustainable reproduction.</p> <p>Action: Collect information, create database and cadastre of flora and fauna.</p> <p>Action: Mainstream species based management plans with local development actions.</p>
<p><b>Goal 3. Promote the conservation of genetic diversity.</b></p> <p>Target 3.1: Genetic diversity of crops, livestock, and harvested species of trees, fish, and wildlife and other valuable species conserved, and associated indigenous and local knowledge maintained.</p>	<p><b>Target 9. Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.</b></p>	<p><b>Objective: Assess the role of agrobiodiversity in rural and urban livelihood securities, including a focus on nutrition and health securities.</b></p> <p>Action: Develop ex-situ conservation. Create seed banks and gene banks for conserve genetic resources and pre-breeding material.</p> <p>Action: Establish a technical base and national collection of important micro organisms and fungal cultures, related to agriculture.</p> <p>Action: develop plant nurseries important for agrobiodiversity (including fruit-trees and nuts). Use the state of plant and animal genetic resources reports of FAO as reference material and assess biennial progress on their conservation and use.</p>
<b>Promote sustainable use</b>		
<p><b>Goal 4. Promote sustainable use and consumption.</b></p>	<p><b>Target 9. Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources.</b></p>	<p><b>Objective: Identify the existing and future consumption patterns and market related issues for biodiversity and its products.</b></p>

<b>CBD 2010 Goals and Targets</b>	<b>MDGs Targets and indicators</b>	<b>Kyrgyz Republic Actions and Strategies Needed for Linkages</b>
<p>Target 4.1: Biodiversity-based products derived from sources that are sustainably managed, and production areas managed consistent with the conservation of biodiversity.</p>	<p>32. Proportion of households with access to secure tenure</p>	<p>Action: Develop national programs and policies to ensure biodiversity sustainable use.</p> <p>Action: Develop suitable management plans for conservation and sustainable use of biodiversity involving local communities.</p> <p>Action: Promote and regenerate national traditions of sustainable nature use.</p> <p>Action: Enhance public awareness and promote principles of sustainable development and achieved the goals of the United Nations Decade Education for Sustainable Development.</p>
<p>Target 4.2: Unsustainable consumption of biological resources or that has an impact on biodiversity reduced.</p>	<p>27. Energy use (kg oil equivalent) per \$1 GDP (PPP)</p> <p>28. Carbon dioxide emissions per capita and consumption of ozone-depleting CFCs (ODP tons)</p> <p>29. Proportion of population using solid fuels.</p>	<p>Action: Reduce consumption of organic fuel for needs of power engineering and associated productive wastes polluting environment.</p> <p>Action: Make forestation plans that are directly responsive to carbon emission reductions.</p> <p>Action: Introduce biogas and hydroelectric installation, and other alternative sources of energy to reduce pressures on forest resources.</p> <p>Action: Identify better biomass related fuel sources and promote their consumption.</p>
<p>Target 4.3: No species of wild flora or fauna endangered by international trade.</p>	<p>Sub-target: Identify and minimize informal trade of biodiversity in addition to legal and illegal trade in species</p>	<p>Action: Review and revise levels of wildlife resources use, hunting and fishery regulations, ensure with sustainable limits</p>

<b>Address threats to biodiversity</b>		
<p><b>Goal 5. Pressures from habitat loss, land use change and degradation, and unsustainable water use reduced.</b></p>	<p><b>Target 10. Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.</b></p> <p>30. Proportion of population with sustainable access to an improved water source, urban and rural</p> <p>31. Proportion of population with access to improved sanitation, urban and rural</p> <p>32. Proportion of households with access to secure tenure</p>	<p><b>Objective: Develop environmental management plans to reduce impacts on biodiversity</b></p> <p>Action: Provide rehabilitation and modernization of water facilities (irrigation, collector and drainage, hydro-power, sewerage, flood protection, mud dam systems of industrial and civil water supply and waste treatment)</p> <p>Action: Develop and use better biodegradation and bioremediation measures to deal with better sanitation at rural and urban levels.</p> <p>Action: Develop secured tenurial rights regimes for conservation and development purposes.</p>
<p>Target 5.1: Rate of loss and degradation of natural habitats decreased</p>	<p><b>Target 9. Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources. Sub-target: Minimize adverse impacts of development programmes and processes on biodiversity using suitable policy and action programmes</b></p>	<p>Action: Ensure better implementation of NEAP, REAP and NBSAPs.</p> <p>Action: Mainstream EIA processes into development programmes that are responsive to not just social and economic factors but to long-term environmental impacts</p>
<p><b>Goal 6. Control threats from invasive alien species.</b></p> <p>Target 6.1: Pathways for major potential alien invasive species controlled.</p> <p>Target 6.2: Management plans in place for major alien species that threaten ecosystems, habitats, or species.</p>	<p><b>Target 9. Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources. Sub-target: Develop national strategies for managing adverse impacts of species that are invasive and have an impact on economy and environment.</b></p>	<p><b>Objective: Develop national action plans for management of invasive alien species.</b></p> <p>Action: Develop and implement plans for control and prevent the spread of introduced species that threaten local ecosystems</p> <p>Action: Raise awareness on such species with conservation, development and policy communities.</p>

<p><b>Goal 7. Address challenges to biodiversity from climate change and pollution.</b></p>	<p><b>Target 9. Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.</b>  Sub-target: Develop national action programmes on adaptation and mitigation that mainstream conservation and biodiversity management with climate variability impacts and pollution.  Sub-target: Minimize by half the levels of air, water and soil pollution by 2015.</p>	<p><b>Objective: Develop and implement national programmes on adaptation and mitigation that link programmes of work based on CBD, UNFCCC and UNCCD.</b></p> <p>Action: Adjust functions and authority of republican and local bodies in the field of administrative regulation of environmental management and conservation</p> <p>Action: Improve mechanisms of coordination in interaction of local communities with main stakeholders under Global Environmental Conventions requirement</p> <p>Action: Rehabilitate forests, and increase productivity of pastures, bushes and wetlands under global environmental conventions requirements</p>
<p>Target 7.1: Maintain and enhance resilience of the components of biodiversity to adapt to climate change.  Target 7.2: Reduce pollution and its impacts on biodiversity.</p>	<p>27. Energy use (kg oil equivalent) per \$1 GDP (PPP)  28. Carbon dioxide emissions per capita and consumption of ozone-depleting CFCs (ODP tons)  29. Proportion of population using solid fuels.</p>	<p><b>Objective: Enhance means to use biodiversity services to minimize climate change impacts and pollution.</b></p> <p>Action: Increase use of environmentally appropriate and renewable energy sources in the framework of “clean development mechanism”.</p> <p>Action: Reduce consumption of organic fuel for needs of power engineering and associated productive waste polluting environment</p>

<i>Maintain goods and services from biodiversity to support human well-being</i>		
<p><b>Goal 8. Maintain capacity of ecosystems to deliver goods and services and support livelihoods.</b></p> <p>Target 8.1: Capacity of ecosystems to deliver goods and services maintained.</p>	<p><b>Target 2. Halve, between 1990 and 2015, the proportion of people who suffer from hunger.</b></p> <p>4. Prevalence of underweight children under 5 years of age.</p> <p>5. Proportion of population below minimum level of dietary energy consumption.</p>	<p><b>Objective: Stop process of degradation, increase productivity of irrigated and dry agricultural lands</b></p> <p>Action: Provide food security plans for rural and urban areas in the country</p> <p>Action: Reduce unemployment and provide employment through rural based industries and technologies.</p> <p>Action: Increase productivity of cattle breeding, poultry keeping, fishery, hunting business, phyto business, etc.</p> <p>Action: Develop action programmes that maximize agrobiodiversity conservation and diversification of dietary habits and options.</p>
<p>Target 8.2: Biological resources that support sustainable livelihoods, local food security, and health care, especially of poor people, maintained.</p>	<p><b>Target 6. Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio.</b></p>	<p><b>Objective: Enhance maternal health through better provision of food and clean water.</b></p> <p>Action: Improve sanitary life support conditions of urban and rural population</p> <p>Action: Rehabilitate and further improve indicators of security and effective maintenance of water management infrastructure</p>
	<p><b>Target 8. Halted by 2015 and begun to reverse the incidence of malaria and other major diseases.</b></p>	<p>Action: Mainstream actions into health management plans that are based on addressing impacts of climate variability and disease incidence and use of local knowledge and resources in disease management and prevention.</p>

<b>Protect traditional knowledge, innovations and practices</b>		
<p><b>Goal 9. Maintain socio-cultural diversity of indigenous and local communities.</b> Target 9.1: Protect traditional knowledge, innovations, and practices.</p>	<p><b>Target 9. Integrate the principles of sustainable development into country policies and programmes [...]</b></p>	<p>Action: Mainstream issues of using and protecting traditional knowledge for conservation and sustainable use of biodiversity into national development plans, including rural development options.</p> <p>Action: Develop suitable legal and management systems to protect and use traditional knowledge for local development programmes.</p>
<p>Target 9.2: Protect the rights of indigenous and local communities over their traditional knowledge, innovations, and practices, including their rights to benefit sharing.</p>	<p>32. Proportion of households with access to secure tenure.</p>	<p>Action: Regenerate national traditional knowledge on biodiversity sustainable use.</p>
<b>Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources</b>		
<p><b>Goal 10. Ensure the fair and equitable sharing of benefits arising out of the use of genetic resources.</b> Target 10.1: All transfers of genetic resources are in line with the CBD, the International Treaty on Plant Genetic Resources for Food and Agriculture, and other applicable agreements.</p>	<p><b>Target 12. Develop further an open, rule-based predictable, non-discriminatory trading and financial system including a commitment to good governance, development and poverty reduction – both nationally and internationally</b></p>	<p><b>Objective: National development plans and policies that are responsive to local livelihood securities and maximize rule based trading systems.</b></p> <p>Action: Develop local and regional action programmes for agriculture sector. To develop program securing the traditional plants and herbs.</p> <p>Action: Develop a suitable access and benefit sharing (ABS) system in the country to deal with bioprospecting and resource use, trade.</p> <p>Action: Mainstream trade related issues into implementation of NBSAPs, NCs and National Action Plans.</p>

<p>Target 10.2: Benefits arising from the commercial and other utilization of genetic resources shared with the countries providing such resources.</p>	<p><b>Target 17. In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries</b>  46. Proportion of population with access to affordable essential drugs on a sustainable basis.</p>	<p><b>Objective:</b>  <b>Better use of local biodiversity for health care systems and bioprospecting purposes.</b>  Action: Develop sustainable market options based on principles of Bonn Guidelines on ABS.</p> <p>Action: Build capacities to implement the Bonn Guidelines on ABS and ABS principles</p> <p>Action: Develop and implement national action programmes to support cheaper access to food and medicine using appropriate. Design poverty reduction measures that support local interests.</p>
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The MDGs and the 2010 targets link biodiversity conservation to poverty reduction and provide opportunities to achieve the 2010 goal. To meet the 2010 targets governments should provide an enabling environment for this, including payment for ecosystem services (PES). Government and Ministries of Environment must be encouraged to reach out to those associated with finance and trade to prioritize biodiversity conservation. To enhance capacity building and raise awareness on biodiversity conservation, development should involve different groups of stakeholders, including the private sector.

The human impact on the natural environment has intensified over the past century in response to population growth, rapid technological development, industrialization and agricultural expansion. Increasingly human impacts have undermined the supply of water, energy and other basic resources, creating uncertainties and instabilities in the process. Instead of increasing wealth, economic activities now threaten natural resources and lead to rising environmental management costs. This threat especially impacts developing countries. Any development model which does not consider these consequences will fail to ensure continuing prosperity, particularly for the poorest communities. As the environment is an essential and inseparable component of development, it will be necessary to integrate environmental considerations into all development co-operation initiatives. This justifies the need for national environmental strategies and development, to donor support coordination matrix.

Analysis of the current situation in Kyrgyz Republic shows that many donors World Bank, Asian Development Bank, United Nations Development program, European Commission and others are working in different sectors to ensure better implementation and achievement of the MDGs and CBD objectives and 2010 target. This should change to ensure implementation of donor agreements both through the Monterrey Process and the Paris Declaration of ensuring effective aid flows. There are several activities and policy documents such as the National environmental Action Plan, National Biodiversity Action Plan, and National Self Capacity Assessment however there is little integration of these policies into each other and other development policies. To achieve the MDGs and the CBD objectives, Kyrgyz Republic must integrate principles of sustainable development and Global Biodiversity 2010 targets into all its national policies, strategies and programs and reverse the loss of mountain ecosystems. Species-based management plans should be mainstreamed with local development actions and a renewal of national traditions on sustainable use is needed. Additionally, continued support is needed for agriculture development - improvement of irrigation facilities, assistance in animal husbandry, micro credit support from the private sector for essential farm inputs, equipment, extension services for farmers, and food security.

### **Conclusions**

At the 2006 COP8 in Curitiba Brazil, participants considered the implications of the Millennium Ecosystem Assessment and the contribution of biodiversity to the achievement of the Millennium Development Goals. They also considered the imperative of mainstreaming biodiversity into other sectors especially food and agriculture. It was recognized that trade and development for the achievement of the 2010 biodiversity target and the Millennium Development Goals should be mutually supportive with the integration of the MDGs into 2010 targets. While achieving the MDGs depends on progress toward the 2010 targets, the success of the 2010 campaign depends on the progress towards the MDG targets with recognition of the relevance of biodiversity in achieving all of the MDGs. In this regard, it is advisable for Kyrgyz Republic to revise its NBSAP with integration of 2010 biodiversity targets as well as recognition of the NBSAP as a tool in achieving the Millennium Development goals.

Kyrgyz Republic should give priority to natural resources conservation, because of high poverty levels, as well as direct anthropogenic impacts and natural disasters. Though the country has made some progress toward achieving the targets 2010 by utilizing the MDGs

indicators, there remains a crucial need to develop new approaches to biodiversity conservation, use and sharing of benefits from such use.

Kyrgyz Republic should also raise public awareness on the importance of mountain ecosystem conservation issues to ensure better implementation of the National Environmental Action Plan, Regional Environmental Action Plan and the National Biodiversity Action Plan (NBSAP) as well as the ecosystem management plan. Institutional capacity and management skills should also be strengthened.

Finally, there is a need to mainstream traditional knowledge into policymaking that contributes to achievement of MDGs 1, 4, 5, 6 and 7, and thus prevents loss of traditional knowledge and culture and will facilitate a mechanism for full participation of local communities. In this regard it is advisable for the government to establish an inter-agency commission comprising of high level representatives from the ministries of environment, finance, planning and national development to develop MDG implementation plans that fully and seriously consider conservation of biodiversity as an important prerogative for achieving the MDGs.

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## **Annex 1 Conservation Projects Implemented in Kyrgyzstan**

### **Kyrgyz-Swiss Program on Forestry Support (KYRFOR Program):**

**This project** started in 1995. It contributed to the development of the national forest sector by: implementing reforms of forestry policy for effective, sustainable and multifunctional use and forest management; developing a Forest Code; developing Forest Concept and Forest program (2001-2025) which includes community forestry management, agrarian forestry for arable land, promotion of natural a forestation, rehabilitation of anti-erosion plantations, development of seeding and nursery entities, and commercial plantations of fast growing trees used of protect agricultural fields regardless on property forms.

**World Bank/GEF Central Asia Trans-boundary West Tien-Shan biodiversity project (2000-2006).** This project ensured the conservation of the globally important biodiversity the West Tien Shan conservation biodiversity through the ecosystem based management approach. The project intervened land on cluster of protected areas, prepared the bioregional plan addresses conservation in the landscape outside the four protected areas and improved in the protected area network, the project created two contiguous protected areas across a national boundary. The project activities were focused on capacity building (including training, transport, communications, and infrastructure), community awareness and education, and research and monitoring. The project has established new technical standards for protected areas management and methods for involving local communities. A Small Grants Program provided financial and technical assistance to buffer zone communities and community-based organizations to finance demand-driven activities in sustainable agriculture, alternative livelihoods and alternative energy systems. The project introduced modern methods in conservation biology collaboratively among the three countries.

**UNEP/GEF/UNU project 2004-2006 Sustainable Land Management in the High Pamir and Pamir-Alai Mountains.** This project addresses the interlinked problems of land degradation and poverty. It aims to implement methods of sustainable management for ecosystems.

**The UNEP/GEF medium scale project Support to the Implementation of the Regional Environment Action Plan in Central Asia (2001).** This project contributed to the improvement of Central Asia's environment through: (i) promoting sustainable land management practices; and (ii) strengthening regional capacity and cooperation for sustainable development and implementation of the regional environment action plan (REAP).

**The UNEP/GEF project In Situ/On Farm Conservation of Agricultural Biodiversity (Horticultural Crops and Wild Fruit Species) in Central Asia (2005-2010).** This project sought to improve partnerships and define the optimal and sustainable use of agricultural biodiversity and improved welfare of the rural population Kyrgyzstan one of the project participants. The main partner in this project was – International Plant Genetic Resources Institute (IPGRI). The project focused on traditional local fruit cultures and wild cultures, and support of the farmers and local population *in-situ* fruit cultures conservation.

**The UNDP/GEF National Capacity Self-Assessment (NCSA) for Global Environment Management (2004-2005).** This project identified and analyzed the priorities and needs for the capacity building of the Kyrgyz Republic to implement the UN Global Environmental Conventions.

**The GEF-UNEP-WWF, ECONET Design for the long-term biodiversity conservation in the eco-regions of Central Asia (2003-2006).** Under this programme an Environmental network scheme is being developed. It includes protected areas of different categories guaranteeing conservation of the main natural ecosystems and extension of the protected areas size up to 10%. <http://www.ca-econet.info>

**The Central Asian Mountain Partnership (CAMP) (2000).** Central Asian Mountain partnership (CAMP) promotes the sustainable development of Central Asian mountain regions by encouraging the multifunctional and sustainable use of resources through different stakeholders in Kyrgyzstan, Tajikistan, and Kazakhstan. CAMP works in four tightly interconnected fields: Resource use, village development, product development and marketing and policy dialogue. The aims of CAMP within these fields are to contribute to: Sustainable and multifunctional use of resources by improving resource use technologies and management; Higher incomes of mountain populations through activities that generate income and improve livelihoods; Improve local conditions that facilitate sustainable development; Empower mountain populations with regard to the specific conditions of living in and developing mountain areas.

**FAO Project on Revision and Harmonization of legislation on protected area in Kyrgyzstan, Kazakhstan and Uzbekistan (2003-2004).** This project aimed to revise and harmonize the legal norms related to protected areas.

**Small Grant Programs (SGPs) UNDP/GEF (is going from 2000).** The small grants programme has provided 89 grants to local people in rural areas for the implementation small and sustainable ecological projects on biodiversity conservation.

**Project EU-JUMP – Support of sustainable management of the juniper forests of the south of Kyrgyzstan (2003-2006);** developed integrated management plans in juniper forests in the south of Kyrgyzstan with involvement of the local population.

**GTZ Project on the Biosphere Territory ‘Issyk-Kul’ (1997-2005).** This project established biosphere reserve “Issyk-Kul” with the total area of 43144 square km

**IUCN/UNEP/ UNU-AIS “The Central Asia and Mongolia Bioresources and Biosecurity Network. (Capacity Development on Access to Genetic Resources, Benefit – Sharing, and Biosafety in Central Asia and Mongolia) 2002-2004.** Establishment and implementation of the formal network, with aim to build awareness of the relevant international context, exchange information, and strengthening the legislation basis. The network will be established working groups of legal experts and professionals to analyse existing legislation on ABS, traditional knowledge, biosafety, and intellectual property.

**Project UNEP/GEF Development of the framework documents on biological safety in the Kyrgyz Republic. UNDP project Conservation of Endemic Ichthyo-fauna in Issyk-Kul Lake (2005-2006).** Under this project a new regime for fishing in Issyk-Kul Lake was created.

**ADB project on Regional Agriculture Development for Chyi oblast 2004-2006 Kyrgyzstan.** This project implemented activities to combat desertification, agriculture development and poverty reduction.

**Several World Banks projects have been implemented in the Kyrgyzstan. These include a project to improve water use and protect soil during irrigation focusing on capacity building of the Water User Association. Another project was the International Fund for Agricultural Development (IFAD), project on sheep breeding and pastures monitoring (1995-2000),** focused on overgrazing control and rehabilitation of traditional outrun animal husbandry combining elements of biodiversity conservation, ecotourism, phyto-business and beekeeping development.

**UNDP/GEF Project on sustainable mountain pastures management in Kyrgyzstan (2005).** Kyrgyzstan was a pilot country within the GEF project Global pasture project on nomadic stock-breeding.

**UNDP project Capacity Building project g and Strengthening Environmental Governance for Sustainable Development (2005-2010)**

This project focused on assisting Governmental Committee of Environment and Forestry of KR, to strengthen cross cutting cooperation and preparation national portfolio for GEF, UNDP, UNEP, OECD, and promoting Millennium Development Goals (MDG) with principles of Sustainable Development in KR. This project focuses on:

Create a Coordination Body on Sustainable Development in KR. Working out National Strategy on Sustainable Development of KR. Enhance public awareness of stakeholders ([www.undp.kg](http://www.undp.kg))

## Annex 2

### Recent Developments in Kyrgyz Republic in Relation to Environment and Development

Sector issue	Key donors activity	Key Government agency activity	Suggested activity
<b>Poverty reduction</b>	<p><b>World Bank:</b> income and job creating investments in village infrastructure and in group-owned small enterprises. Poverty reduction structural adjustment credit.</p> <p><b>International Monetary Fund:</b> integrates poverty reduction concerns with macroeconomic stability and good governance.</p> <p><b>ADB/WB/ UNDP:</b> develop National Poverty Reduction Strategy, national MDGs achievements.</p> <p><b>ADB:</b> small grants to NGOs to directly finance pilot poverty reduction interventions.</p> <p><b>UNDP:</b> helped to create jobs for the poorest rural and urban communities.</p>	<p><b>Government of KR, President Administration, Ministry of Finance:</b> Poverty reduction policy, implementation of the National Poverty reduction Strategy.</p>	<p>Integrate principles of sustainable development into country policies, strategies and programs to reverse the loss of environmental resources</p>
<b>Agriculture</b>	<p><b>World Bank:</b> provided support to implement agrarian reform and farm restructuring, develop input markets, enhance the institutional capacity of Ministry of Agriculture, develop credit and irrigation facilities, and assist in animal husbandry. The agro business and Marketing project of 2005 promotes processing and marketing, build trade linkages between producers and primary and secondary trade organizations.</p> <p><b>ADB:</b> supported policy and institutional reforms in agriculture to restructure sectors and improve cost recovery in irrigation.</p> <p><b>EBRD:</b> support private sector supply of essential farm inputs, equipment, storage facilities and extension services for farmers</p> <p><b>JICA:</b> Conducting a survey on effective management of agriculture and the processing industry, and conducting 3 pilot projects in Naryn, Tyup and OSh. Provides training courses in Japan to promote agricultural cooperatives and water user associations.</p>	<p><b>Ministry of Agriculture, Water resources and Processing Industry:</b> Implemented policy and institutional reforms, recovering agriculture sector and increasing agriculture productivity and processing</p>	<p>Improve investment policies at local level. Develop actions programs that maximize agro biodiversity conservation and desertification of dietary habits and options. Develop local programs on linking adaptation with livelihood and food securities. Develop rural and urban food security maps using a set of social, economic, environmental, development, market and policy indicators.</p>

<b>Water</b>	<p><b>World Bank:</b> improved portable water and sanitation in rural area.</p> <p><b>ADB:</b> supported water supply and sanitation, rehabilitation and maintenance.</p> <p><b>USAID:</b> helps upgrade weather and water resource data collection and monitoring systems, and improve water management decisions by supporting water user's associations</p>	<p><b>Ministry of Agriculture, Water resources and Processing Industry:</b></p> <p>Agriculture reforms, improve irrigation system, and water management.</p>	<p>Develop local capacities to maintain and provide sustainable access for safe drinking water</p>
<b>Health</b>	<p><b>World Bank:</b> Improves performance and long-term financial viability of the health system. Enhances access to health care through better distribution of services.</p> <p><b>USAID:</b> Implements cost-effective primary health care and maternal and child health programs. Control and prevent TB and HIV/AIDS. Institutionalized family medicine.</p> <p><b>UNICEF:</b> Improve nutrition of poor families by enriching flour and salt with iodine.</p> <p><b>Japan:</b> Provide medical equipment for maternity centers and children's hospitals</p> <p><b>UNDP:</b> Help the Government coordinate national multisectoral approach to HIV/AIDS, involving policy advice, capacity building, and advocacy.</p>	<p><b>Ministry of Health:</b> provide health reform, improve health policy and efficiency of the medical system</p>	<p>Sustainable use biodiversity for health care system and bio prospecting purposes, regenerate using traditional knowledge based on health and nutritional security. Develop and implement national action programs to support cheaper access to food and medicine using appropriate IPR measures that support local interests.</p>
<b>Environmental management</b>	<p><b>World Bank:</b> natural disaster mitigation project, address key natural and environmental risks, including the impact of uranium tailings stored in Maili-Suu.</p> <p><b>ADB:</b> has given continued support for strengthening environmental management through three TAs and has also provided support for sustainable mountain development.</p> <p><b>UNDP:</b> help Government and local communities build capacity and improve environmental management and conservation policies and practices. Promote sustainable land management system. National Self-Assessment Capacity for Global Environmental Management</p>	<p><b>Governmental Agency on Environmental Protection and Forestry</b></p> <p>Environmental protection and sustainable use natural resources policy</p>	<p>Develop suitable management plans for conservation and sustainable use of biodiversity, involving local community to decision making process. Assess the impacts of species based economic activities and their impacts on livelihoods.</p>

<b>Convention on Biodiversity</b>	<p><b>WB/GEF:</b> West Tien Shan biodiversity conservation</p> <p><b>UNDP:</b> develop local biodiversity management plans. Develop 3 National Biodiversity Report.</p> <p><b>Germany (GTZ):</b> promotes the Issyk-Kul biosphere reservoir</p> <p><b>EU-TACIS:</b> support forest conservation</p>	<p><b>Governmental Agency on Environmental Protection and Forestry:</b> implemented environmental conventions obligations, improve environmental policy</p>	<p>Ensure better implementation of CBD, NEAP, NBSAP, NSCA. Promote national traditions of sustainable nature use. Mainstream species based management plans with local development actions.</p>
<b>Energy</b>	<p><b>World Bank:</b> promotes comprehensive energy reforms, focusing on electricity. Promotes market reforms and strengthening of regulatory and institutional capacity.</p> <p><b>ADB:</b> power and district heating rehabilitation project.</p> <p><b>USAID:</b> promotes independent regulation of the energy sector through public participation. Supports sector reform to reduce electricity theft and unmetered consumption on better management. Introducing efficient heating systems in hospitals and schools. Helped construct a small hydroelectric power plant with local communities.</p> <p><b>UNDP:</b> introducing new energy efficient technologies and using alternative and renewable energy. Development of renewable energy.</p>	<p><b>State energy Agency the KR Government:</b> Provide energy reforms, save electricity policy prepare the concession of Severelectro , to reduce electricity losses</p>	<p>Increase use of environmentally appropriate and renewable energy sources in the framework of mechanism of “clean development”. Identify better biomass related fuel sources and promote their consumption</p>
<b>Education</b>	<p><b>World Bank:</b> improves rural education, finance new textbooks and learning materials for primary and secondary schools.</p> <p><b>USAID:</b> Supports legal reform, capacity building and democracy education. Strengthens basic education to improve the quality and relevancy of curriculum. Helps bridge the gap between universities and business.</p> <p><b>Soros Fund:</b> supports school development, teacher training, learning material development, capacity building, and overseas scholarships.</p> <p><b>UNICEF:</b> supports capacity building of local administrations, school development, and policy formulation.</p>	<p><b>Ministry of Education:</b> education reform, improve quality of education system in KR</p>	<p>Strengthening institutional, management and technical capacity, improve quality of education in secondary and high school. Integrate the principles of sustainable development into country policies and education programs</p>

	<b>Germany (GTZ):</b> supports the vocational education		
<b>Forestry</b>	<b>Switzerland:</b> Improve management of forest resources by involving local communities. Built capacity in forestry management. Introduce appropriate resource management and conservation in mountain area. <b>EU-TACIS</b> project juniper forest conservation	<b>Governmental Agency on Environmental Protection and Forestry:</b> Provide sustainable forestry development policy	Identify the existing and future consumption patterns and market related issues for biodiversity and its products.

### Annex 3 Progress toward the Millennium Development Goals

MDG Goals and targets	KR response
<p><b>Goal 1. Eradicate extreme poverty and hunger</b>            Target 1; Halve between 1990 and 2010 the proportion of people whose income is less than 1 \$ a day            Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger</p>	<p>The CDF 2010 aims to reduce income poverty from 52.3% in 2000 to 26.5% in 2010. The NPRS sets an interim target of 38.9% for 2005.</p> <p>Nutrition –based extreme poverty 17.8 % in 2000 fell to 9.4% in 2003</p>
<p><b>Goal 2: Achieve universal primary education</b>            Target 3: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling</p>	<p>Survey and registration data show a decline in basic education enrollments, although it is still high. In 2003, primary-school enrollment was 96.8%, and secondary-school enrolment was 65.8%. The decline in quality of education is concern. The NPRS envisages increasing primary school enrollment to 97% by 2005.</p>
<p><b>Goal 3: Promote gender equality and empower women</b>            Target 4: Eliminate gender disparity in primary and secondary education preferably by 2005 and in all levels of education no later than 2015</p>	<p>There is no significant gender disparity in enrollments at the primary level. Enrollments are higher for girls in secondary and high education.</p>
<p><b>Goal 4: Reduce child mortality</b>            Target 5: Reduce by two-thirds, between 1990 and 2015, the under-5 mortality rate</p>	<p>The NPRS aims to reduce the child mortality rate (estimated using national methodology) from 35.5 in 1999 to 28.0 (per 1000 births) in 2005. It fell to 27.7 in 2003, although it accounted for 31.2 in 2004 because of the adoption of the WHO methodology since then</p>
<p><b>Goal 5: Improving Maternal Health</b>            Target 6: Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio.</p>	<p>The MMR has fluctuated considerably. It was 31.5 (per 100 000 live births) in 1996. It peaked at 62.7 in 1997 and declined thereafter until 2001 and increased again to 53.5% in 2001. The MMR declined to 46 in 2004. The NPRS aims to reduce the MMR to 40% by 2005</p>
<p><b>Goal 6: Combat HIV/AIDS, Malaria, and Other Diseases</b>            Target 7: Have halted by 2015, and begun to reverse, the spread of HIV/AIDS            Target 8: Have halted by 2015, and begun to reverse, the incidence of malaria and other major diseases (tuberculosis)</p>	<p>There were 655 officially reported HIV/AIDS cases (2005) (up from 1 case reported in 1996). Drug abuse is considered to be the main reason for the increase in incidence. HIV/AIDS is becoming a concern.</p> <p>Tuberculosis has tripled over the past 10 years; it grew from 52.1 per 100 000 in 1990 to 167.7 per 100 000 in 2001, but fell to 117.7 per 100 000 in 2003</p> <p>The incidence of waterborne diseases such as gastrointestinal diseases, viral hepatitis, and typhoid is high and still increasing. Iodine and iron deficiency are high and have increased.</p> <p>Mortality from infection diseases was reduced from 32.9 per 100 000 in 1999 to 25 in 2005.</p>

<p><b>Goal 7: Ensure Environmental Sustainability</b></p> <p>Target 9: Integrate the principles of sustainable development into country policies and programs and reverse the loss of environmental resources.</p> <p>Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water</p> <p>Target 11: By 2020, achieve a significant improvement in the lives of at least 100 million slum dwellers</p>	<p>The CDF aims to improve the legal framework for environmental management. It also proposes to develop decentralized approaches for management of mountainous ecology. Environmental legislation enforcement is weak, because of low staff morale, poor public sector governance, and eroding skills. Environmentally damaging subsidies exist in the energy sector. Quasi-fiscal deficit in the energy sector is about 12% of GDP. Collection rates on heating and electronic tariffs are low; service theft is common and tolerated by utilities. Forest cover was depleted marginally from 4.75% in 1990 to 4.25% in 2003.</p> <p>Access to drinking water through centralized piped supply was 71.4% in urban areas and 15% in rural areas in 2002. The Government plans to substantially improve access to clean water in rural areas, enforcement is weak because of staff low morale, poor public sector governance, and eroding skills. WB and ADB are supporting a nationwide program of water supply in the KR</p> <p>65% of families have dwelling space of less than 5 square meters per family member. The average dwelling space per person was 12.5 m<sup>2</sup> in 2002. The Government plans to reduce this inequality and increase the average dwelling space per capita to 14.2 m<sup>2</sup> by 2010.</p>
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**Source:** Country Strategy and program Update, Kyrgyz Republic (2006-2008). ADB. Bishkek 2005

WB – World Bank, ADB – Asian Development Bank, CDF – Comprehensive Development Framework, NPRS – National Poverty Reduction Strategy