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# In-depth Review of Disaster Risk Reduction in the Kyrgyz Republic

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***Aida Gareeva*** *(Ms.), National Public Association "Camp Ala-Too"*

***Aigul Omorova*** *(Ms.), MoES Bishkek*

***Akylbek Chymyrov*** *(Mr.), Kyrgyz State University of Transport, Architecture and Construction*

***Aleksandr Meleshko*** *(Mr.), Central Asian Institute of Applied Geosciences*

***Aleksey Nikitin*** *(Mr.), Netherlands Red Cross, DIPECHO Project*

***Bakytbek Nurkulov*** *(Mr.), State Agency on Architecture and Construction, Department of Civil Engineering & Construction*

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***Emil Omuraliev*** *(Mr.), World Health Organization*

***Kanatbek Abdrakhmatov*** *(Mr.), Institute of Seismology*

***Kubat Jangaziev*** *(Mr.), Ministry for Emergency Situations (MoES), Bishkek*

***Lira Joldubaeva*** *(Ms.), Central Asian Institute of Applied Geosciences*

***Nurgul Smankulova*** *(Ms.), UNFPA Kyrgyzstan*

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***Sergei Erokhin*** *(Mr.), State Agency on Geology and Mineral Resources of the Kyrgyz Republic*

***Seyitbek Imanbekov*** *(Mr.), Kyrgyz Research & Design Institute for Earthquake Resistant Construction*

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***Tatyana Chernikova*** *(Ms.), State Agency of Hydrometeorology under MoES of KR*

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***Ulan Torobekov*** *(Mr.), State Agency of Hydrometeorology under MoES of KR*

***Valentina Sankova*** *(Ms.), Institute of Geology named after M.M. Adyshev, under the Academy of Sciences of the Kyrgyz Republic*

***Vladimir Makrousov*** *(Mr.), Forecast and Monitoring Department of Chuy Oblast, MoES KR*



***The views expressed in this publication do not necessarily reflect those of the UNISDR. The designations employed do not imply the expression of any opinion whatsoever concerning the legal status of any country, territory or area, or its frontiers or boundaries.***


[1] For a detailed contact list please see Annex 4

**Table of Contents**

# Introduction

The International Strategy for Disaster Reduction (ISDR) provides a framework to coordinate actions to address disaster risks at the local, national, regional and international levels. The Hyogo Framework for Action (HFA) for 2005-2015, endorsed by 168 UN member states at the Second World Conference on Disaster Reduction in Kobe, Japan in 2005, urges all countries to undertake major efforts to reduce their disaster risk by 2015.

The Global Assessment Report on disaster risk reduction (2009) is the first biennial global assessment of disaster risk reduction prepared in context of the implementation of the International Strategy for Disaster Reduction. The Report was coordinated by the United Nations International Strategy for Disaster Reduction (UNISDR) Secretariat in collaboration with the United Nations Development Programme (UNDP), the World Bank, the United Nations Environment Programme (UNEP), the World Meteorological Organization (WMO), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the ProVention Consortium, the Norwegian Geotechnical Institute and a wide range of other ISDR partners[2].

The UNISDR Secretariat is in the process of preparation of the second Global Assessment Report on disaster risk reduction for the period 2010-2011. Within the framework of this initiative, UNISDR has carried out an assessment and analysis of achievements in disaster risk reduction and implementation of Hyogo Framework for Action in the Kyrgyz Republic. The present report summarizes the outcomes of the conducted assessment and desk-review analysis, which will then be reflected in the second biennial global assessment of disaster risk reduction for 2010-2011.

[2] http://www.preventionweb.net/english/hyogo/gar/report/index.php?id=9413

# Country context and background information

## Location, geography

The Kyrgyz Republic (also, Kyrgyzstan) is a country located in Central Asia with a total area of 198 500sq.km. Kyrgyzstan is a former republic of the Soviet Union; it became independent in August 1991. The Kyrgyz Republic is a landlocked mountainous country and is bound by Kazakhstan to the north, Uzbekistan to the west, Tajikistan to the south-west and China to the east. The state language is Kyrgyz, official language - Russian. The administrative-territorial division of the Kyrgyz Republic includes 7 provinces (Batken, Jalalabad, Issyk-Kul, Naryn, Osh, Talas and Chuy), 25 cities (two of them are of republican level - Bishkek and Osh). There are 28 urban villages and 444 ayil-okmotu (rural districts).

The country is largely mountainous, dominated by the western reaches of the Tien Shan range in the northeast and the Pamir-Alay in the southwest. The highest mountain is the Victory Peak (Tomur Feng, 7 439 m above sea level) at the eastern tip of the country, at the border with China. The mountain stands in the Mustag massif, one of the world's largest glaciers, covering 1 579 km². About 94% of the country is located at more than 1 000 m above sea level, and 40% above 3 000 m. Much of the mountain region is permanently covered with ice and snow, and there are many glaciers (covering about 4% of the territory) The Fergana mountain range, running from the northwest across the country to the central-southern border region, separates the eastern and central mountain areas from the Fergana valley in the west and southwest. Other lowland areas include the Chu and Talas valleys near the northern border with Kazakhstan. The world's second largest crater lake, Lake Issyk-Kul, lies in the northeast of the country.[3]

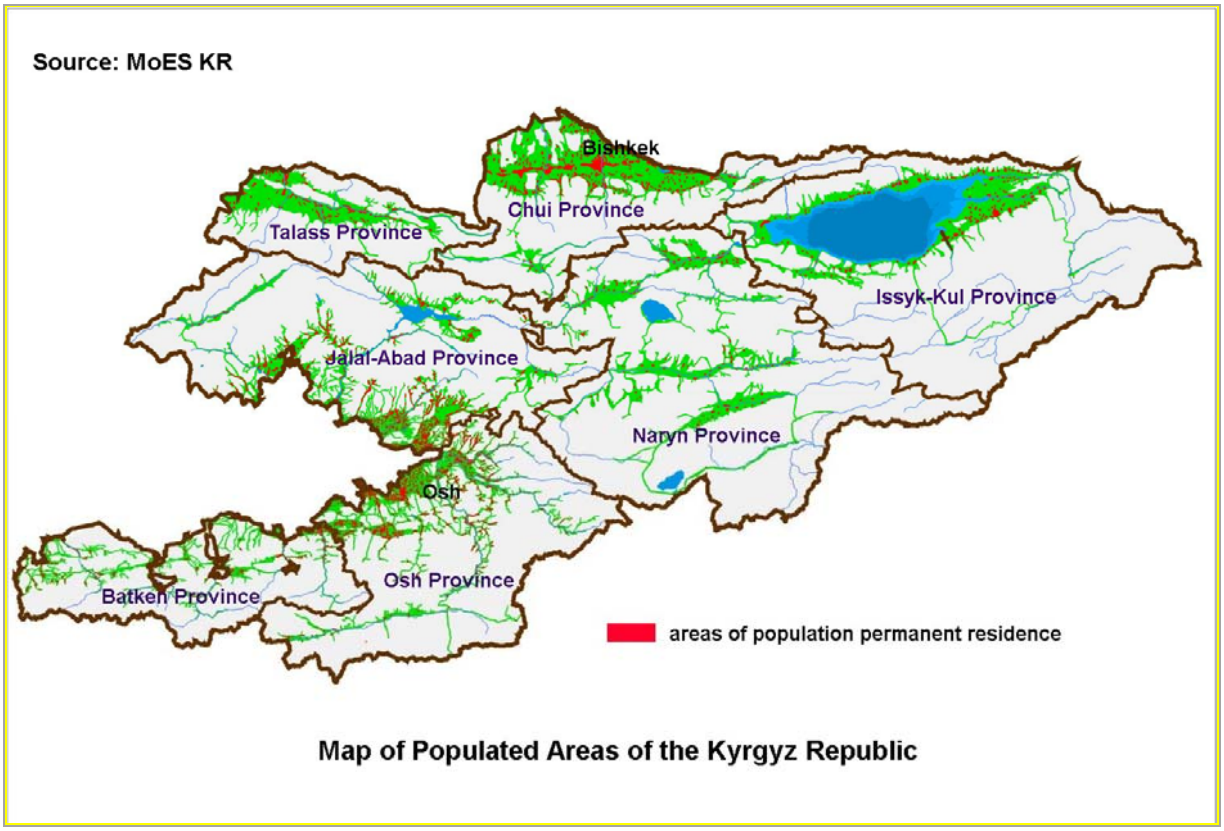

**Map of Kyrgyz Republic**

(Source: Central Asia and Caucasus Disaster Risk Management Initiative (CAC DRMI), Risk Assessment for Central Asia and Caucasus, Desk Study Review)

[3] http://www.fao.org/nr/water/aquastat/countries/kyrgyzstan/index.stm

## Population

The population of Kyrgyzstan is 5,276,092[4] people. The majority lives in the valleys and the foothills of the mountains, where the most hazardous natural process, such as floods, landslides, mudflows, and earthquakes take place regularly.




Map of Populated Areas of the Kyrgyz Republic

## Climate

The climate of Kyrgyzstan varies widely in different parts of the country, from a low dry continental climate in the mountain slopes to a 'polar' climate in the highly elevated areas of the Tian Shan mountain range. The Fergana Valley, in the south-west, experiences a subtropical climate, with extremely hot summers and temperatures of up to 40°C. The average winter temperature ranges from -4°C to -9°C, whereas the summer temperature varies from 20°C up to 27°C. In winter, the coldest areas of the country experience below-freezing temperatures for as long as 40 days, and even some desert areas experience constant snowfall for more than one month. [5]

The climate in the Kyrgyz Republic is continental with hot summers and cold winters, during which frost occurs all over the country. The frost-free period is 185 days per year in the Chu valley, 120-140 days per year in the Naryn valley and 240 days per year in the Fergana valley. Double cropping is therefore limited to vegetables. Average temperatures in the valleys vary from -18_C in January to 28_C in July. Absolute temperatures vary from -54_C in winter to 43_C in summer. The average annual precipitation is estimated at 533 mm, varying from 150 mm in the plains (Fergana valley) to over 1 000 mm in the mountains. Precipitation occurs during the winter season, mainly between October and April, when temperatures are low. Rain-fed agriculture is therefore very limited. Snowfall constitutes an important part of the total precipitation. About 10% of the territory, situated at the lowest altitude, is classed as arid.[6]

[4] "Women and Men of the Kyrgyz Republic", Publication of the National Statistics Committee of the Kyrgyz Republic, Bishkek, 2009, page 46.

[5] Risk Assessment for Central Asia and Caucasus, Desk Study Review, Central Asia and Caucasus Disaster Risk Management Initiative (CAC DRMI), 2009

[6] http://www.fao.org/nr/water/aquastat/countries/kyrgyzstan/index.stm

## Water and land resources


**(Source: http://www.fao.org/nr/water/aquastat/countries/kyrgyzstan/index.stm)**

Kyrgyzstan has huge resources of ground and surface waters, the significant stocks of which are in the rivers, eternal ice-houses and snow massifs. Annual average volume water of total water resources makes up 2,458 km$^3$ including 50km$^3$ of surface river runoff, 13 km$^3$ of potential reserves of ground water, 1,745km$^3$ of lake water, 650 km$^3$ of glaciers. In total there are 8,208 glaciers of different sizes on the territory of Kyrgyzstan.

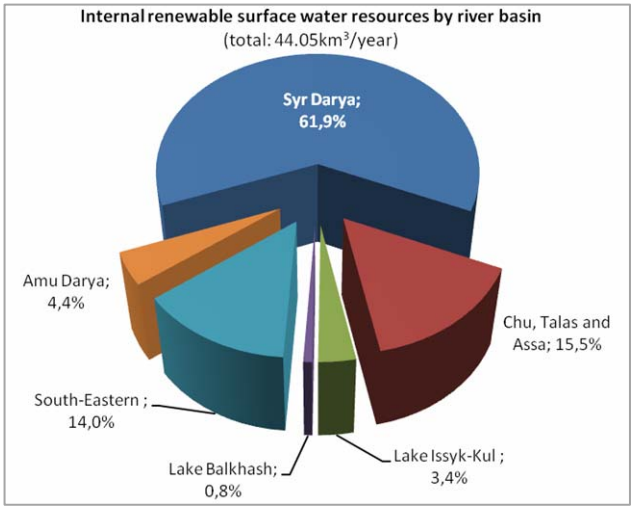
*Rivers*[7]- The country can be divided into two hydrological zones: the flow generation zone (mountains), covering 171 800 km2, or 87% of the territory; and the flow dissipation zone of 26 700 km2, which is 13% of the territory. Most of the rivers are fed by glaciers and/or snow melt. Peak flows occur from April to July, with 80-90% of the flow in the period of about 120-180 days extending to August or September.

There are six main river basin groups in the country. No rivers flow into the Kyrgyz Republic. The Syr Darya River basin: Called the Naryn River before it reaches the Fergana valley, the Syr Darya flows to Tajikistan and Uzbekistan. In Uzbekistan, the Syr Darya receives the Chatkal, a tributary which rises in the Kyrgyz Republic.

The Chu, Talas and Assa river basin: All three rivers flow to Kazakhstan, where the part not withdrawn is lost in the desert.

The southeastern river basins: These consist of small catchment areas draining to China. The main rivers are the Aksay, Sary Jaz and Kek Suu, and are situated at high elevations.

The Lake Issyk-Kul interior basin: The lake is low-saline and it is estimated that all the flow which is not evaporated is used for irrigation or domestic purposes.




[7] http://www.fao.org/nr/water/aquastat/countries/kyrgyzstan/index.stm

The Amu Darya River basin: The Amu Darya rises mainly in Tajikistan, but receives the contribution of a Kyrgyz tributary, the Kyzyl Suu, in the southwest of the country.

The Lake Balkhash basin: It consists of the small catchment of the Ili River, which rises in the Kyrgyz Republic and flows to this Kazakh lake.

*Lakes* – there are 1,923 lakes in Kyrgyzstan, the total area of water surface is 6836 $km^2$. The biggest lakes of Kyrgyzstan are Issyk-Kul (the area of water surface is 6236 $km^2$), Son-Kul (275 $km^2$), Chatyr-Kul (175 $km^2$). There is a significant amount of lakes and other natural reservoirs with common area about 6697 $km^2$ and with common annual volume of water about 1745 billion $m^2$ on the territory of the republic. It is necessary to note that 84% of lakes are located at the heights of 3000-4000 m in regions of tectonic origin. Potential annual stock of ground water is 13 billion $m^2$, of ice-houses* about 650 billion $m^2$

*Glaciers* – the area of icing is 8,169.4 $km^2$, or 4.2% of the republic territory. The main glacier centres are located in the extreme east, in the basin of the river Sary-Jaz where the largest plain glaciers are located and in the south of the Zailiy Ridge. The supply of fresh water preserved in the mountain glaciers is 650 billion $m^3$, which by 12 times exceeds the river flow resources in the country. The climate warming trend leads to a stable and intensive reduction of glacier surfaces. According to forecast, by 2025 the territories of glaciers will be reduced by 30-40% resulting in water volume diminish by 25-35%.

*Bogs* – the bogs in the republic cover 0.5% of the territory in the places where ground water is near the surface (Issyk-Kul lake, Son-Kul lake, the river Chui valley, Talas, Narin).

*Water reservoirs* – there are 13 artificial reservoirs with the total area 378.2 $km^3$ and the volume of water of 23.41 $km^3$ in Kyrgyzstan. About 75% of the river runoff goes out from the republic to Uzbekistan, Kazakhstan, and the Sinjan-Uigur region of China. More than 10 large reservoirs for irrigation were built to regulate the runoff of trans-national rivers, including the Chui, Talas, Naryn, Ak-Bura, Kara-Darya. Damage from agricultural yield shortage on the territories occupied by reservoirs is estimated at 11.3 million US dollars[8]

**Renewable Surface Water Resources (RSWR) by major river basin**[9]

| River basin | Region | Part of territory | Internal RSWR | Outflow to: | Part to be reserved by treaties | Actual RSWR |
|---|---|---|---|---|---|---|
| | | % | $km^3$/year | | $km^3$/year | $km^3$/year |
| Syr Darya | West | 55.3 | 27.25 | Tajikistan and Uzbekistan | 22.33 | 4.92 |
| Chu, Talas and Assa | North | 21.1 | 6.83 | Kazakhstan | 2.03 | 4.80 |
| South-Eastern | Southeast | 12.9 | 6.18 | China | - | 6.18 |
| Lake Issyk-Kul | Northeast | 6.5 | 1.50 | Interior basin | - | 1.50 |
| Amu Darya | Southwest | 3.9 | 1.93 | Tajikistan | 1.51 | 0.42 |
| Lake Balkhash | Northeast | 0.3 | 0.36 | Kazakhstan | - | 0.36 |
| **Total** | | **100** | **44.05** | | **25.87** | **18.18** |

The arable land is estimated at 10.1 million ha. In 1994, the cultivated area was estimated at 1.34 million ha, which was about 13% of the arable area. About 97% consisted of annual crops and 3% of permanent crops. A major programme of land reform is well advanced. Most of the land formerly controlled by the 195 *kolkhoz* (collective farms) and 275 *sovkhoz* (state farms) is being distributed to their employees and dependants in the form of certificates extending 99 years of land-use rights. This process is still underway with only 63% of all agricultural land reported as fully privatized and de-collectivized. Agricultural land is estimated at 9.34 million ha, including at least 7.8 million ha of permanent pastures. The latest statistics available (1994) show that out of these 9.34 million ha, *kolkhoz* cover 2.56 million ha, *sovkhoz* 0.89 million ha, private farms 1.71 million ha, and associations of farmers (agricultural stock companies) 4.18 million ha[10]

[8] http://www.dsi.gov.tr/english/congress2007/chapter_3/86.pdf
[9] http://www.fao.org/nr/water/aquastat/countries/kyrgyzstan/index.stm
[10] http://www.fao.org/nr/water/aquastat/countries/kyrgyzstan/index.stm

## Economy

**Economic summary**[11]

GDP/PPP (2001 est.): $13.5 billion; per capita $2,800. Real growth rate: 5%. Inflation: 7%. Unemployment: 7.2% (1999 est.). Arable land: 7%. Agriculture: tobacco, cotton, potatoes, vegetables, grapes, fruits and berries; sheep, goats, cattle, wool. Labor force: 2.7 million (2000); agriculture 55%, industry 15%, services 30% (2000 est.). Industries: small machinery, textiles, food processing, cement, shoes, sawn logs, refrigerators, furniture, electric motors, gold, rare earth metals. Natural resources: abundant hydropower; significant deposits of gold and rare earth metals; locally exploitable coal, oil, and natural gas; other deposits of nepheline, mercury, bismuth, lead, and zinc. Exports: $475 million (f.o.b., 2001 est.): cotton, wool, meat, tobacco; gold, mercury, uranium, hydropower; machinery; shoes. Imports: $420 million (f.o.b., 2001 est.): oil and gas, machinery and equipment, foodstuffs. Major trading partners: Germany, Uzbekistan, Russia, China, Kazakhstan, U.S., Turkey.

The adopted rigid economic policy has allowed maintaining macroeconomic stability in the country. In 2005-2007 the economy grew annually on the average by 3,8%, per capita GDP has grown from 478 up to 731 US dollars. Low inflation rate contained till August, 2007, and by the end of 2007 it reached 20%. The 2007 goods and services price increase was caused by diminution in the demand under pressure of such factors, as: (i) growth of world prices for grain, oil and foodstuffs; (ii) shrinkage in production of certain agricultural products (grain, sugar beet) against the background of growing export demand for agricultural produce. Herewith, actual increase in cash incomes in 2007 made only 5.3%.

The 2005-2007 inflation average annual increase made 10%. Herewith, the rise in prices for goods made 21% and advance in services prices made almost 11%. Average annual increase of real incomes of the population made 13.3% over the last three years. The given indicators are caused by a rather low inflation rate in overall over this period. Against the background of economic growth, the total unemployment rate was reduced which is expected to reach 7.7% in 2008 against 8,2% in 2005-2007. According to provisional data, the economic growth in 2008 made 7.6%, herewith, per capita GDP made 959 US dollars.[12]

*Key economic indicators of the Kyrgyz Republic (2002-2008)*

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|---|---|
| GDP, real growth (%) | 0,0 | 7,0 | 7,0 | -0,2 | 3,1 | 8,5 | 7,6 |
| Inflation, (%) | 2,3 | 5,6 | 2,8 | 4,9 | 5,1 | 20,1 | 20,0 |
| Unemployment, (%) | 12,5 | 9,9 | 8,5 | 8,1 | 8,3 | 8,2 | 8,0* |
| Current accounts, (%to GDP) | -3,1 | -4,2 | -3,4 | -1,6 | -10,1 | -6,0 | -11,9 |
| Growth of broad money, (%) | 34,0 | 33,5 | 32,0 | 9,9 | 51,6 | 33,3 | 12,6 |
| Primary budgeted deficit, (% to GDP) | -5,1 | -4,3 | -3,4 | -4,2 | -3,0 | -1,6 | -2,0 |
| Foreign debt, (% to GDP) | 108,5 | 93,8 | 86,6 | 77,6 | 66,3 | 52,0 | 45,9 |

*** – expected indicators**

**Data source:** NSC, NBKR, Ministry of Finance, IMF.

The Kyrgyz Republic managed to provide an increase in the state budget revenues. In 2005-2008 the state budget revenues equalled to 24.5% of GDP, thus exceeding significantly their level in 2003-2005 by 3.8 percentage points. The state budget expenditures in 2005-2008 grew annually on average by 36%, and made 31.7% of GDP in 2008[13]. The total external funding of the Public Investment Programme decreased to the level of 1.6% to GDP in 2007 due to the rigorous management practices necessitated by the external debt situation. The budget deficit with account of the Public Investment Programme remained below threshold levels and made on the average 2.7% of GDP in 2005-2008. Thus, the Government could provide achievement of one of the key macroeconomic goals – reduction and control over the state budget deficit.

[11] http://eng.gov.kg/

[12] Country Development Strategy for 2009-2011

[13] Data of the Ministry of Finance of the Kyrgyz Republic.

**Recent economic developments**

After a stagnation period in the late 90s-early 2000s, which ended with the so called Tulip Revolution in 2005 which ousted the previous regime, the new President has managed to consolidate power and economic reforms have gained new momentum. The National Development Council endorsed a new Country Development Strategy for 2007-2010 (recently updated), which identifies acceleration of economic growth as a high priority. During 2007-2008, the growth base continued to broaden towards the services sector, though construction and gold production also contributed strongly to GDP growth in these two years. The average inflation rate remained low at 5 percent in 2005-2006, but went up to 20 percent both in 2007 and 2008, reflecting direct and indirect food and energy price increases, as well as administrative increase of utility prices. The worldwide food price increases, and then the global economic crisis have affected the country significantly, mainly through real channels—trade and remittances—but also via financial channels, creating fiscal and balance of payments financing needs. Economic growth is expected to slow to 1 percent in 2009 broadly in line with growth patterns in the region.

Recently, the government undertook a series of reforms aimed at improving the business environment in the country, which has improved the country's ranking in the 2009 Doing Business survey from 99 to 68 (out of 181 economies). The Kyrgyz Republic strengthened investor protections by amending the law to allow minority investors to take legal actions as shareholders; made it easier for business start-ups by simplifying registration procedure; and introduced a one-stop shop for obtaining construction permits, merging the functions of several agencies.

The country's heavy reliance on foreign credits in the first decade of independence created a high debt burden, which exceeded 70 percent of GDP in 2006, even after significant debt relief through two consecutive debt restructurings. Strong economic performance, improved fiscal responsibility and improved debt management allowed the Kyrgyz government to decrease the debt burden to 48 percent of GDP by the end of 2008.[14]

## Energy sector

During the 2007-2008 winter, Kyrgyzstan like the rest of Central Asia experienced extreme cold for a prolonged period, making it the worst winter in 44 years. Kyrgyzstan was able to ensure provision of essential energy to its population, averting extreme hardship. However this was achieved at the cost of severe depletion of energy-generating water reserves. The harsh winter and emerging energy deficit put into focus a chronic lack of investment into basic infrastructure: degraded energy and heating systems that face imminent breakdown without investment in necessary repairs and the lowest water level in 50 years in the Toktogul reservoir which feeds the main electricity artery of the country. In 2007, the Toktogul hydroelectric dam received less water than anticipated but, more significantly, the cold snap at the beginning of 2008 saw far greater demand for electricity than is usual in the winter. This was coupled by a reduction in gas imports from Uzbekistan. As a result, in April 2008, the water volume of the Toktogul reservoir fell to 6.5 billion cubic metres (bcm), just 20% more than the critical point (5.4 bcm) at which turbines would stop working entirely. As of 2 February 2009, information from the Ministry of Energy indicated that the water volume was 7.6 bcm, still significantly lower than this time last year. The situation is aggravated by the fact that water supply is limited and that there are difficult trade-offs to be made between its use for electricity production (winter flow) and agriculture (spring and summer flow). In Soviet times, the Toktogul hydroelectric station was primarily in use in the summer months, and provided much-needed water to downstream areas of the Syr Darya basin, primarily in Uzbekistan, but also Tajikistan and Kazakhstan. In turn, the neighbouring republics provided energy from fossil fuel sources in winter. However, rises in electricity and gas prices from neighbouring countries, and cases of supplies being cut off for non-payment, have led Kyrgyzstan's Government to conclude that it should rely on its own hydroelectric resources in the winter as much as possible. This need was increased when Uzbekistan, citing debts, reduced and at times suspended supplies of natural gas. Agreements were made to the effect that Kyrgyzstan would use less water for electricity production in the winter, in exchange for more gas from Uzbekistan and more coal from Kazakhstan. However, the cost of imported natural gas from Uzbekistan

[14] http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/ECAEXT/KYRGYZEXTN/0,,contentMDK:20629311~menuPK:305768~pagePK:141137~piPK:141127~theSitePK:305761,00.html

increased from $145 to $240 per thousand m³. This increase is being passed on to domestic consumers – gas prices for households were increased by 80%. Drought-like conditions over the last three years, increasing demand for electricity, technical losses and agreements to provide electric power to neighbouring countries, made it very difficult to restore hydroelectric water reserves to normal levels, raising the spectre of longer-term power cuts with chronic humanitarian and economic implications[15].

## Industry

The industrial production share reduced from 17.3% in 2005 to 13.9% in 2008. Index of industrial output actual volume in 2008 made 114.9%, mainly due to impact of operations of base enterprises of gold mining and energy industries at their specific weight making 33% in the industrial output volume. Decline in the industrial output exceeded 2%; the "Kumtor" excluded. The growth trend in the industrial sector has been observable over last two years while the index of industrial output actual volume in 2005-2006 was negative (decline in the output exceeded 10%). Particular emphasis should be placed on year 2007, when considerable growth in the industry (by 7.3%) was achieved at the the "Kumtor" mining enterprises' negative performance indicators (-1 %)[16].

## Transportation and communication infrastructure

The main components of Kyrgyzstan's physical infrastructure include roads, rail, electric grids, gas pipelines, and a telecommunications system. The country's road system consists 16,854 kilometres of paved roads. The rail system consists of 1 major rail line of a length of 370 kilometres linking the Kyrgyz capital, Bishkek, with Kazakhstan. The fixed (copper wire) telephone system and microwave relay stations dating from the Soviet period (consisting of 357,000 lines) are rapidly being overtaken by new, decentralized mobile phone services. Of the country's 14 airports, only the capital airport is capable of accommodating international flights[17].

During the Soviet era, transport infrastructure in the Kyrgyz Republic saw major improvements and developments. New paved highways and roads were constructed as vehicular transportation was introduced for both people and goods. Later, rail transport was developed. A large volume of cargo and passengers has traditionally been carried by rail in the Kyrgyz Republic. In addition, air transport and infrastructure were extensively developed with airports being built in all major cities. The transport infrastructure was necessary for economic development of the country since it was closely integrated with the other republics of the former Soviet Union. Currently, the transport sector is mainly owned by the state, however airports are served by both state-owned and private air transport companies transporting passengers and cargo.

There are no private roads in the Kyrgyz Republic. The Kyrgyz national, regional or municipal governments own and maintain all roads. Construction and maintenance of these roads is financed from the corresponding budgets. According to the Kyrgyz Ministry of Transport and Communications, the total length of roads in the Kyrgyz Republic is 34,000km, and the total length of the railroad system is 424.6km.

In the Kyrgyz Republic there are two airports that have been upgraded to meet international standards: Manas International Airport in Bishkek and Osh International Airport. Regular international flights to the following countries are offered from Manas International Airport: UK, Germany, China, Turkey, India, Pakistan, Korea, UAE, and Russia. There are also eight local airports that handle internal flights[18].

**The State policy on communication and information technologies**

The state policy on communication and information technologies aims at satisfying the demands for electrical and postal communication services, access to information resources and technologies of the governmental management and local governance bodies, physical and legal persons.

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[15] Kyrgyzstan Flash Appeal, 2009, UNCT KR

[16] Country Development Strategy for 2009-2001

[17] http://www.nationsencyclopedia.com/economies/Asia-and-the-Pacific/Kyrgyzstan-INFRASTRUCTURE-POWER-AND-COMMUNICATIONS.html

[18] *Source: www.bisnis.doc.gov (http://www.centralasia-biz.com/cabiz/eng/kyrgyz_eng/transport_kg_eng/abt_transport_kg_eng.htm)*

The telecommunication sector of the Kyrgyz Republic has the following specific characteristics:

- Higher rates of growth in comparison to other sectors of the economy;
- Active application and utilization of new technologies;
- Rapid change in the structure of provided services.

The development in the telecommunication services sector indicates a major integration of telecommunication and information infrastructure. Merging of data transmission and telephone systems will continue. In the near future, a major shift toward broadband communication technologies (transmission of video images, high-speed data transmission) is expected. The share of traditional communication services, in particular the fixed telephone communication systems, progressively diminishes, whereas the high-tech services rapidly expand. The cellular communication services indicate higher growth rates against the extensive competition.

Presently, there are 8 licensed mobile (cellular) service operators in the Kyrgyz Republic, of which 5 provide cellular communication services. The total number of cellular service users has reached 3.2 million. Integration of cellular communication has reached 53% and over 85% of the population live in the areas with cellular service coverage. Cellular communication and internet access services have been progressively developing in the rural areas. The Postal service, except being provided by the State Enterprise "Kyrgyzpochtasy", is also provided by seven commercial companies[19].

## Agriculture

Kyrgyzstan is predominantly an agrarian society with two-thirds of its population living in rural areas, where poverty tends to be higher than the national average. Agriculture makes up only 29% of national gross domestic product (GDP) but employs 65% of the workforce. Kyrgyzstan has 1.4 million hectares of arable land, which is only 7% of the country's total territory. The Tian Shan and Pamir mountain ranges cover about 65% of Kyrgyzstan, while 90% of the country lies more than 1,500 metres above sea level. Despite privatisation of 75% of agricultural land, the productivity of the sector remains low due to lack of investment and environmental degradation. The country is a net food importer – Kyrgyzstan imports 43% of its wheat, 44% of vegetable oil and 66% of sugar[20].

From the total area of agricultural lands, more than 88% are estimated as degraded and affected by desertification processes[21]. In 1997, Kyrgyzstan joined the UN Convention to combat desertification, and developed an Action Plan to mitigate and prevent desertification processes. Poverty is the major cause to the fact that most farmers have no any other option than to cultivate poor and degraded lands with limited access to agricultural resources, and often they are urged to make use of less labour consuming cultures and agro-technical methodology which have a potential negative impact on the environment. As a result of such activities, soil erosion, water pollution and decrease in crops is observed throughout the country.

The agriculture sector accounts for 40 percent of GDP and 60 percent of employment but is experiencing serious challenges. Agricultural workers are among the poorest people within the population. Recent price drops have further affected this sector. For example, prices for sheep in Talas and Chui provinces fell from 4,500 Som ($110) in November to 2,500 ($61) in January. Assessments show that productivity can be increased significantly in fairly short order with the injection of improved seed, equipment and credit. However, longer-term gains and sustainability require on-going technical assistance and more effective water management schemes. A programme to achieve the short-term gains must link effectively to longer term objectives in capacity building of farmers and improved water management, from the outset, to be sustainable.

Kyrgyzstan depends much on agriculture, and effective management and conservation of natural resources for the sake of future generations is key for its sustainable development. Pasturelands occupy 44% of the territory, and thus far about 25% of the pastures are under the threat of degradation[22].

[19] http://www.mtk.gov.kg/index.php?option=com_content&view=article&id=77&Itemid=75
[20] Kyrgyzstan Flash Appeal, 2009, UNCT KR
[21] Country Gender Assessment of Kyrgyzstan, ADB, p. 29
[22] CPAP (Country Programme Action Plan) for 2005-2010, UNDP KR

## Social sector

Amount of financing of the development key social areas tended to sustainable growth. The education sector had the highest share of the allocated funding. In comparison with 2003-2005, the public spending on the named sector increased from 4.6% of GDP up to 5.7% of GDP in 2005-2007. The spending amount on public health care has increased from 2.2 % in 2005 up to 2.6% in 2007 while the specific weight of expenditures on the social assistance and insurance averaged annually 2.7% of GDP. In 2008 the spending amount for the education sector was expected to make 5.6%, expenditures on public health care will reach 2.6%, and the social assistance sector will make 2.5%, respectively.

Major reforms in the social sphere were directed on search of adequate funding sources, improvement of the targeted assistance delivery, and increase of social security benefit levels. In spite of measures undertaken by the Government of the Kyrgyz Republic in 2005-2007 regarding the wage raise of employees of the government-financed organizations along with increase of benefits, allowances and other assistance, financing and income levels of this category of the population still remains low. The average annual level of social benefits made 504.4 Som in 2007, or 18% of minimal consumer budget (MCB). The monthly average salaries of workers of education and health sectors made in 2007 – 86.8% and 82.4% from MCB, and by estimates, in 2008 they made 91.5% и 86.1%, respectively.[23]

A significant poverty reduction took place in 2000-2004 irrespective of the poverty line evaluation and its recalculation method which took place in 2003. Thus, the per capita consumption-based poverty level decreased from 43.1% in 2005 to 35% in 2007[24].

Notwithstanding the fact that in 2003-2004 the poverty reduction rate in the urban areas outrun the poverty reduction pace in the rural areas, a considerable poverty reduction was observed among the rural population in 2005-2006. Subject to application of a new poverty line (a new calculation methodology) its level in the urban areas made 29.8%, and in 2007 – 23.2%. Due to the use of a higher poverty line, the poverty indicator in the rural areas changed and made 50.8% in 2005, and 41.7% – in 2007.

Despite the overall significant poverty reduction in the country, considerable regional differences in poverty levels still persist. Three oblasts have been identified where the poverty level according to 2007 performance exceeded 45%. These are Djalal-Abad oblast – 53%, Batken oblast – 45%, and Osh oblast – 46.6%. In all regions the indicator remained below 45%. Practically in all regions the poverty level in the rural areas is higher versus the urban areas.

One of major challenges faced by the Government lately was to provide financial sustainability of the pension system. Revenues of the Social Fund budget during last five years were characterized by the sustainable growth trend of budget receipts. Revenues to the Social Fund budget over the reported period increased by 1.2% to GDP or grew from 6.4% to GDP in 2005 up to 7.2% in 2007. One of key sources providing for increase in budget revenues became receipts from collection of insurance contributions. Volume of insurance contributions grew over the reporting period by 0.2 percent from 4.9% to GDP up to 5.1% notwithstanding the reduction of the insurance contributions tariff rates from 33% in 2003 to 27% in 2007. Average annual growth rate of insurance contributions collection over this period made 15.4% at average annual nominal growth of GDP by 13.2%. This allowed improving the state of the Social Fund and providing for execution of all obligations under the pension benefits payment on timely basis. The improved insurance contributions administration and their increased collection made it possible to implement the annual raise of the base part of pensions and the differentiated increase in the pension insurance parts. Nevertheless, low pension levels still persist to be a serious pending problem which should be addressed within this Strategy framework.

Support to children is one of the most crucial problems faced by the country. By various estimates, at present there are over 10 thousand neglected children along with over 23 thousand working children and 20 thousand children not attending school. The problem of children's support needs to be addressed more closely as disregarding the issue on hand may lead to the national human capacity "de-capitalization"[25].

[23] Data of the Ministry of Social Development and Labor of the Kyrgyz Republic
[24] The NSC data
[25] Country Development Strategy for 2009-2011

## Water and sanitation

Support provided by the World Bank and ADB made it possible to maintain the access of 89.8% of the population to qualitative water in 2006. A negative tendency is observed in relation to access of the population to sanitation facilities, and the respective indicator decreased from 32.8% in 2000 to 23.9% in 2006. The situation requires undertaking additional efforts and this is confirmed by outbreaks of infectious diseases, particularly in the southern regions of the Republic.

## Healthcare sector

Proportion of the population lacking access to health care services reduced in 2004-2006 from 7.8% to 5.6%. Despite the fact that health care services are currently accessible for the population at large, however, their cost and remoteness of health care facilities from certain settlements cause a serious constraint to the medical aid access, particularly in the rural areas.

Quality of services of the public health care system does not adequately meet the needs of the population. The statistics reports high sickness rate indicators or unfavourable trends in cardiovascular diseases, neoplasms, HIV/AIDS and other diseases. Life expectancy at birth (67.7 years in 2006) as an integrated life-quality indicator is under threat. Development of health care institutions based on various organizational and legal forms had as one of its goals the improvement of the health care facilities physical availability and quality of medical services in Kyrgyzstan. However, growth of "demand" in the health services market is not accompanied by the quality improvement, but cost of the services tends to grow without limitation. In fact, only the applied medicine actually develops while no attention is given to the development of preventive medicine in the country. The low level of preventive maintenance, inopportuneness of revealing of diseases increases the number of heavy and hard to cure patients whose treatment demands essential financial expenses of the state.

## Education

Kyrgyzstan manages to maintain the earlier achieved educational level; however, there are visible signs of its impairment. Quality of training of students, with the insignificant exception, tends to degradation. Contents of education (knowledge, skills) at schools and institutes of higher education today are inadequate. Results of the 2007 National Monitoring of learning achievements' quality of students show as against 2006, reduction in percent of correct answers in base skills and knowledge: in literacy – up to 35%, mathematics – up to 38%, and life skills – 35.2%. Persistent learning incentives of the curriculum are weakened, and traditional for the country a prestige of solid scholarship is substituted for obtaining of the certificate of degree. It generates corruption and undermines trust of the population to education in general, and prevents from formation of the generation socially adapted to sustainable human development.

The number, quality and structure of graduates of the Kyrgyz educational institutions not quite adequately satisfy the demands of the existing and future labour market. Many graduates of institutes of higher education and secondary vocational educational institutions lack the employment opportunity in their speciality; financial and time costs incurred by the trained youth have became unproductive, and there are threats of manning requirements for the national social and economic development programs. The required labour supply-and-demand balance is lacking in relation to specialists trained by the educational system, and such balance is upset in demand for educational services and actual quality of these services. It becomes particularly visible at seeing the inadequate training of technician-graduates and excessive graduation of specialists in the humanities (lawyers, economists). Such background prevents from their successful integration in economic activities[26].

The Ministry of Education has a focal point for emergencies, responsible for facilitating the preparedness work of the Ministry on Emergency Situations towards schools in terms of information chain, implementation of training for students, teachers, and school headmasters.

[26] Country Development Strategy for 2009-2011

## Social welfare

Standards of living for the majority of the population remain low, with nearly 45 percent recognized as poor. Nearly 3 out of 4 among the poor live in rural areas, but poverty in small former industrial cities is also an emerging problem. Even so, patterns of poverty do not have uniform effects across all population groups; significant stratification between groups has become the norm and sets the stage for potential social tensions.

## Employment and labour migration

The country's economic growth remains fragile and has mainly been supported by private consumption as a result of a sharp increase in foreign remittances, as opposed to domestic investment and production. Remittances are a by-product of massive labour migration, with possibly one million people, or half of the working-age population, migrating to Russia and Kazakhstan annually in the face of widespread unemployment and underemployment in Kyrgyzstan. However, the global economic slowdown is expected to adversely affect remittances and Foreign Direct Investment. The severe price fluctuations in world food and energy prices have placed further strains on the country. The fragility of Kyrgyzstan's economy is highlighted by the country's application for a loan under the International Monetary Fund's (IMF) Exogenous Shocks Facility – on 10 December the Fund agreed to provide $100 million, with $25 million to be made available immediately. The support will be used to address the consequences of global price increases and energy shortfalls in the country.

## Food security

During 2008, a sequence of locust infestation, hail storms, lack of precipitation and spring frosts inflicted serious damage on the agricultural sector to an estimated cost of $65 million. A combination of global economic factors and bad weather has decelerated growth in the agricultural sector to only 1.2% during the first five months of 2008, despite an increase in land under cultivation. In addition, the global increases in the prices of key food and energy commodities are fuelling inflation and causing significant shortages in family income. It is estimated that inflation rose from 4.4 and 5.1% in 2005-2006 to 20.1% in 2007 – mainly reflecting food price increases worldwide. The consumer price rise for food was 18.5% in 2006-7. The National Bank reports that inflation stood at 20% for 2008. Forecasted inflation for 2009 was 15.5%. The Ministry of Economic Development reported that food prices had risen 20.4% since the beginning of 2008, and the price of bread has more than doubled in two years, largely because of wheat price increases. Sharp price increases for food coupled with those for fuel and utilities make it difficult, especially for vulnerable groups or people in poverty to ensure a suitably nutritious diet.

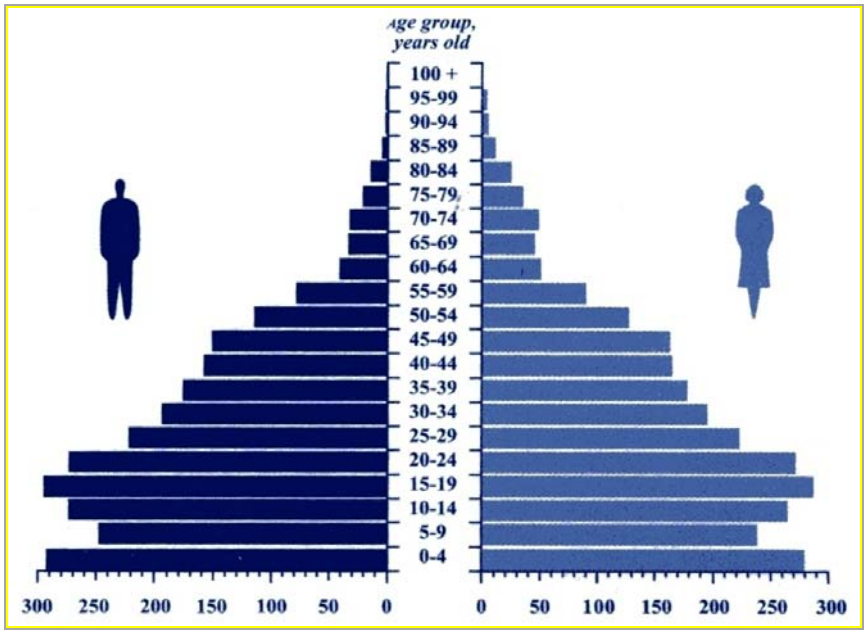
In response to the deteriorating food security situation, the government revised national legislation on food security, establishing new mechanisms to increase domestic investment in the agricultural sector. In order to offset the impact of food price inflation on vulnerable groups, the government is utilising the Unified Monthly Benefit (UMB) as the main government safety net and poverty reduction system. The programme provides cash transfers to poor families with non-working dependents, with targeting determined both by means-testing categorical criteria and the calculation of unit benefits. Though the system is effective at targeting the poor, with 75% of recipients in the poorest 40% of the population, it is critical to note that funding constraints limit its reach to only 25% of the poorest in the country. In addition, the General Minimum Level of Consumption to be attained using the UMB is fixed by the available budget, and not by the actual cost of the consumption basket, likely leaving many recipients well below the poverty line[27].

## Gender analysis

"It is well known that women in the developing world will suffer the most from the effects of climate change. What needs equal emphasis however is the fact that women also represent an immense source of potential and power to combat the increased disaster risks that climate change will bring. Women in developing countries are already on the front line of adapting to climate change, with increasing floods and droughts affecting upon their livelihoods. As pivotal managers of natural and environmental resources and

[27] Kyrgyzstan Flash Appeal, 2009, UNCT KR, p. 5.

key frontline implementers of development, women have the experience and knowledge to build the resilience of their communities to the intensifying natural hazards to come"[28].



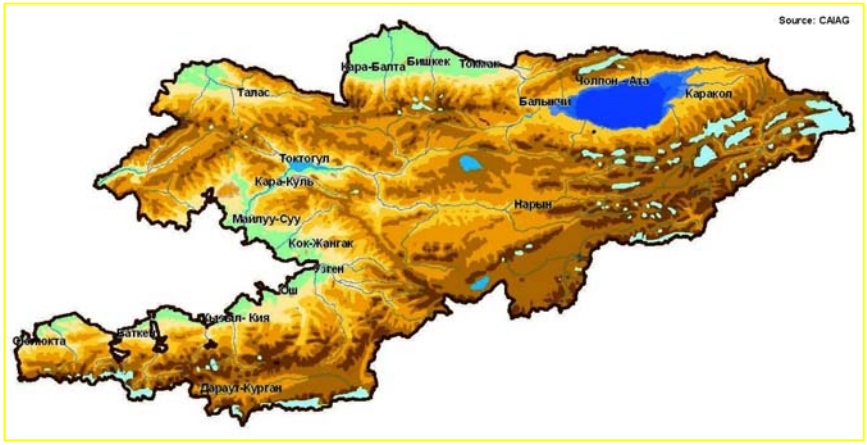

*Source: "Women and Men of Kyrgyz Republic, 2009"*

The population of Kyrgyz Republic is 5,276,092 people, of which 2,667,154 are women and 2,608,938 men (data as of 1 January 2009)[29]. Since 2001, the number of women aged 20-29 has increased[30]
The population of Kyrgyzstan is young. Data from early 2009 indicate that 41.1 per cent of the population are children and adolescents, 59.3 per cent are working age and 8.3 per cent are over the working age.
Although there is no specific data comparison on the number of women/men suffered from various natural hazards, it is accepted among DRR actors that women are affected more, especially in the rural areas.

[28] Mr. Salvano Briceno, Director, Secretariat of the UNISDR, "Gender Perspectives: Integrating Disaster Risk Reduction into Climate Change Adaptation, Good Practices and Lessons Learned", 2008
[29] Women and Men of the Kyrgyz Republic, National Statistical Committee of the Kyrgyz Republic, 2009
[30] Translating Commitments on Gender Equality into Actions, UNCT Kyrgyzstan, Gender Theme Group

## Hazard profile and disasters

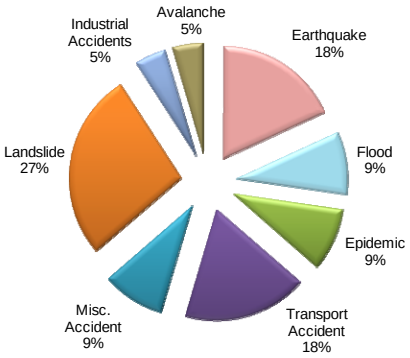
Kyrgyzstan is highly susceptible and vulnerable to natural disasters due to its geographic location in a seismically active and mountainous region, with frequent incidence of earthquakes, flooding, mudslides, avalanches, snowstorms, and mountain lake spills. Limited state and local government resources available for disaster reduction and response exacerbate the population's high vulnerability to natural disasters.

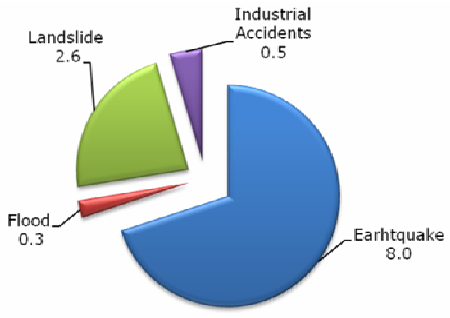



The hazard-specific distribution of various disasters that occurred in the period 1988-2007 and the economic loss potential looks like as follows[31]:

| Disaster Risk Statistics (1988-2007) | | | | |
|---|---|---|---|---|
| *Disaster type* | *No. of disasters /year* | *Total no. of deaths* | *Deaths/ year* | *Relative vulnerability (deaths/year/ million)* |
| Earthquake | 0.20 | 58 | 2.90 | 0.55 |
| Flood | 0.10 | 4 | 0.20 | 0.04 |
| Landslide | 0.30 | 238 | 11.90 | 2.27 |
| Avalanche | 0.05 | 11 | 0.55 | 0.10 |
| Epidemic | 0.10 | 22 | 1.10 | 0.21 |
| I. Accidents | 0.05 | 4 | 0.20 | 0.04 |
| T. Accident | 0.20 | 88 | 4.40 | 0.84 |
| M. Accident | 0.10 | 21 | 1.05 | 0.20 |

Percentage distribution of reported disasters in Kyrgyzstan



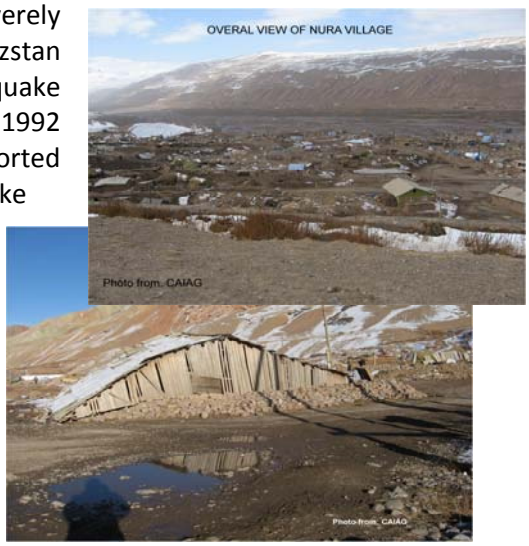

**Average annual economic loss of Kyrgyzstan (in million USD)**

Loss data not sufficient for other disasters

| Economic Loss Potential | | |
|---|---|---|
| *Annual exceedance probability* | *Economic loss ($ million)* | *Percentage to GDP (2007)* |
| 0.5% | 160 | 4.57 |
| 5.0% | 49 | 1.40 |
| 20.0% | 15 | 0.42 |

[31] Central Asia and Caucasus Disaster Risk Management Initiative (CAC DRMI), Risk Assessment for Central Asia and Caucasus, Desk Study Review, World Bank, UNISDR, CAREC, GFDRR, 2009

Analysis of the disaster data show that Kyrgyzstan is severely affected by earthquakes. As per GSHAP (GSHAP, 1998), Kyrgyzstan lies in a region with high to very high seismic hazard. An earthquake of magnitude 7.3 struck the Jalal-Abad region on 19 August 1992 killing 54 people, affecting 86,800 people and incurring a reported economic loss of $130 million. On 15 May 1992, an earthquake with magnitude of 6.6 in the Burgandi-Nookat region killed 4 people, affected 50,000 others and caused an economic loss of $31 million. A magnitude 7 earthquake in the Ak-Tala district on 9 January 1997 affected 1,230 people and caused an economic loss of $2 million, while a magnitude 5.8 earthquake on 26 December 2006 in the Isakeevo-Kochkorka region affected 12,050 people.




Recently, on 5 October 2008, a powerful earthquake of magnitude 6.6 hit the southeast of Kyrgyzstan, 220 kilometres from the main city of Osh, near the borders of Tajikistan and the People's Republic of China. The earthquake struck the two districts of Alai and Chonalai and severely damaged the village of Nura, killing 74 people (including 43 children) and injuring 157. An estimated 90 per cent of the village infrastructure was destroyed and more than 850 people were left homeless. The estimated damage caused by the earthquake in the area covered by the assessment was in the range of $8 million – $10 million (ADB, 2008).

Landslide hazards are also significant in the country. Approximately 5,000 potential active landslide sites have been identified, out of which 3,500 are in the southern part of country. Every year, on average, landslides kill dozens of people and 700 houses are damaged or destroyed (Pusch, 2004). On 14 April 1994, a major landslide in the Osh Jalal-Abad region killed 111 people, affected 58,500 others and caused an economic loss of $36 million. Earlier, in March 1994, 51 people were killed by a landslide in the Usgen region. Meanwhile, in April 2003 a landslide in the Uzgen district killed 38 people and affected 211 others, while in April 2004 two separate landslides in the Alay district and the Kara-Sogot region killed a total of 38 people and affected 96 others.


***Raikomol Landslide flashed over to the opposite side of Ak-Zhol River, which resulted in destruction of 6 residential houses and loss of 16 human lives.***

Mudflows and floods also cause significant damage. Floods are initiated by heavy rains, snowmelt and breaches of natural dams. There are more than 8,500 glaciers in Kyrgyzstan, encompassing an area of 8,000 square kilometres. Similarly, out of more than 1,000 high mountain lakes, 200 are identified as dangerous (Pusch, 2004). In June 2005, a flood in the region of Uzgen killed 3 people, affected 2,050 others and caused an economic loss of $2.66 million. In May 1998, a flood event in the Jalal-Abad region killed 1 person, affected 7,728 others and caused an economic loss of $2.4 million.


***Photo from CAIAG***

Kyrgyzstan has suffered from various epidemic disasters. In March 1997, 22 people were killed and 336 others made ill by bacterial infection. In 1998, 458 people contracted typhus fever.

The country has also suffered numerous disasters caused by technological hazards. Over the past two decades, there have been four major transport accidents, one major industrial accident and two major miscellaneous accidents, including dam collapse, classified as disasters. These accidents reportedly killed 113 people and affected a further 1,217, with a reported economic loss of $8 million due to industrial accidents alone. Furthermore, the country has a potential nuclear radiation hazard from the release of radio-nuclides from mine tailings and waste dumps (Pusch, 2004)[32].

**Comparative data on number of registered disasters caused by the most widespread natural hazards**[33]

| Types of phenomena | 1990-1999 | | 2000-2009 | | 1990-2009 | |
|---|---|---|---|---|---|---|
| | number of disasters | % of the total number of disasters | number of disasters | % of the total number of disasters | number of disasters | % of the total number of disasters |
| mudflows and floods | 408 | 34.2 | 544 | 26.5 | 952 | 29.3 |
| landslides | 221 | 18.5 | 210 | 10.2 | 431 | 13.3 |
| avalanches | 132 | 11 | 199 | 9.7 | 331 | 10.2 |
| earthquakes | 115 | 9.6 | 193 | 9.4 | 308 | 9.5 |
| water logging | 64 | 5.4 | 82 | 4.0 | 146 | 4.5 |
| meteorological (heavy winds, hails, snow/rainfalls) | 58 | 4.9 | 268 | 13 | 326 | 10 |
| man-made disasters and fires | 19 | 1.6 | 349 | 17 | 368 | 11.3 |
| infection outbreaks | 9 | 0.8 | 147 | 7.1 | 156 | 4.8 |

[32] Central Asia and Caucasus Disaster Risk Management Initiative (CAC DRMI), Risk Assessment for Central Asia and Caucasus, Desk Study Review, World Bank, UNISDR, CAREC, GFDRR, 2009

[33] Monitoring, Forecast of Hazardous Processes and Phenomena on the Territory of Kyrgyz Republic, 2009, MoES KR

## Vulnerability analysis

Vulnerability indicators such as the number of disaster events, deaths, affected population and economic losses have been plotted against hazard types as well as for 5-year intervals covering the 20-year period 1988-2007[34].

Among natural hazards, landslides caused the largest number of deaths (238), followed by earthquakes (58). Earthquakes affected the largest number of people (150,086) and caused the highest economic loss ($163 million), followed by landslides, which affected 59,809 people and caused an economic loss of $38 million.

The highest number of deaths from disasters was in the period 1993-97, when 196 people died. The period of 1988-1992 was the worst in terms of number of people affected (136,806) and economic loss ($161 million), mainly caused by the devastating earthquake of 1992. Among technological hazards, transport accidents caused the largest number of deaths (88), followed by miscellaneous accidents (21).

Landslides had the highest frequency (0.30 per year), followed by earthquakes and transport accidents (0.20 per year each). The death rate was highest for landslides (11.90), followed by transport accidents (4.4) and earthquakes (2.9). The relative vulnerability was highest for landslides (2.27), followed by transport accidents (0.84) and earthquakes (0.55).

Earthquakes are the dominant risk in Kyrgyzstan with an economic AAL of $8 million, followed by landslides ($2.6 million). The 20-year return period loss for all hazards is $49 million (1.4 per cent of GDP), while the 200-year return period loss is $160 million (4.57 per cent of GDP).

[34] Central Asia and Caucasus Disaster Risk Management Initiative (CAC DRMI), Risk Assessment for Central Asia and Caucasus, Desk Study Review, World Bank, UNISDR, CAREC, GFDRR, 2009

**Top 10 Natural Disasters in Kyrgyzstan for the period of 1900 to 2010[35]:**

**(sorted by numbers of killed)**

| Disaster | Date | No Killed |
|---|---|---|
| Mass movement wet | 14-Apr-1994 | 111 |
| Earthquake (seismic activity) | 5-Oct-2008 | 74 |
| Earthquake (seismic activity) | 19-Aug-1992 | 54 |
| Mass movement wet | 9-Mar-1994 | 51 |
| Mass movement wet | 20-Apr-2003 | 38 |
| Mass movement wet | 26-Apr-2004 | 33 |
| Epidemic | 13-Mar-1997 | 22 |
| Extreme temperature | 16-Oct-2000 | 11 |
| Mass movement wet | 5-Aug-2004 | 11 |
| Mass movement wet | 17-Apr-2004 | 5 |

**(sorted by numbers of total affected people)**

| Disaster | Date | No Total Affected |
|---|---|---|
| Earthquake (seismic activity) | 19-Aug-1992 | 86,806 |
| Mass movement wet | 14-Apr-1994 | 58,500 |
| Earthquake (seismic activity) | 22-May-1992 | 50,000 |
| Earthquake (seismic activity) | 26-Dec-2006 | 12,050 |
| Storm | Jan-2006 | 9,075 |
| Flood | 18-May-1998 | 7,728 |
| Earthquake (seismic activity) | 13-Jan-2008 | 3,000 |
| Flood | 10-Jun-2005 | 2,050 |
| Earthquake (seismic activity) | 9-Jan-1997 | 1,230 |
| Earthquake (seismic activity) | 5-Oct-2008 | 1,197 |

**(sorted by economic damage costs)**

| Disaster | Date | Damage (000 US$) |
|---|---|---|
| Earthquake (seismic activity) | 19-Aug-1992 | 130,000 |
| Mass movement wet | 14-Apr-1994 | 36,000 |
| Earthquake (seismic activity) | 22-May-1992 | 31,000 |
| Flood | 10-Jun-2005 | 2,660 |
| Flood | 18-May-1998 | 2,400 |
| Earthquake (seismic activity) | 9-Jan-1997 | 2,000 |
| Mass movement wet | May-2002 | 1,500 |
| Flood | 17-Apr-2007 | 200 |

[35] http://www.emdat.be/result-country-profile

**Summarized Table:**[36]

| | | # of Events | Killed | Total Affected | Damage (000 US$) |
|---|---|---|---|---|---|
| Earthquake (seismic activity) | Unspecified | 1 | 74 | 1,197 | - |
| | **ave. per event** | | 74 | 1,197 | |
| | Earthquake (ground shaking) | 5 | 58 | 153,086 | 163,000 |
| | **ave. per event** | | 12 | 30,617 | 32,600 |
| Epidemic | Bacterial Infectious Diseases | 1 | 22 | 336 | |
| | **ave. per event** | | 22 | 336 | |
| | Viral Infectious Diseases | 1 | | 458 | - |
| | **ave. per event** | | | 458 | |
| Extreme temperature | Cold wave | 1 | 11 | | |
| | **ave. per event** | | 11 | | |
| Flood | Flash flood | 1 | 1 | 7,728 | 2,400 |
| | **ave. per event** | | 1 | 7,728 | 2,400 |
| | General flood | 2 | 3 | 2,895 | 2,860 |
| | **ave. per event** | | 2 | 1,448 | 1,430 |
| Mass movement wet | Avalanche | 1 | 11 | 2 | |
| | **ave. per event** | | 11 | 2 | |
| | Landslide | 6 | 238 | 59,809 | 37,500 |
| | **ave. per event** | | 40 | 9,968 | 6,250 |
| Storm | Unspecified | 1 | 4 | 9,075 | |
| | **ave. per event** | | 4 | 9,075 | |

[36] Source: "EM-DAT: The OFDA/CRED International Disaster Database www.em-dat.net - Université Catholique de Louvain - Brussels - Belgium"

## Climate change


The climate is changing, and the countries of Central Asia are experiencing the effects of that change. The increase of air temperature, changes in hydrology, and the frequency of such extremes as drought, flooding, heat waves, windstorms have been observed here. Climate change scenarios project that over the next decades there will be even more changes in air temperature and precipitation in whole territory of Central Asia. By the end of the twenty-first century, the average annual air temperature in the region may rise from 3 to 5°C. Annual precipitation is also expected to increase by 7-17%. Winter precipitation is likely to increase while on the contrary it may decrease in summer time that along with warmer temperature can contribute to escalation of aridity[37].

Despite the predicted increase in precipitation the growth of air temperature will raise the vulnerability of water resources in the region through changes resulting from intense winter flooding and decreased water flow in summer.

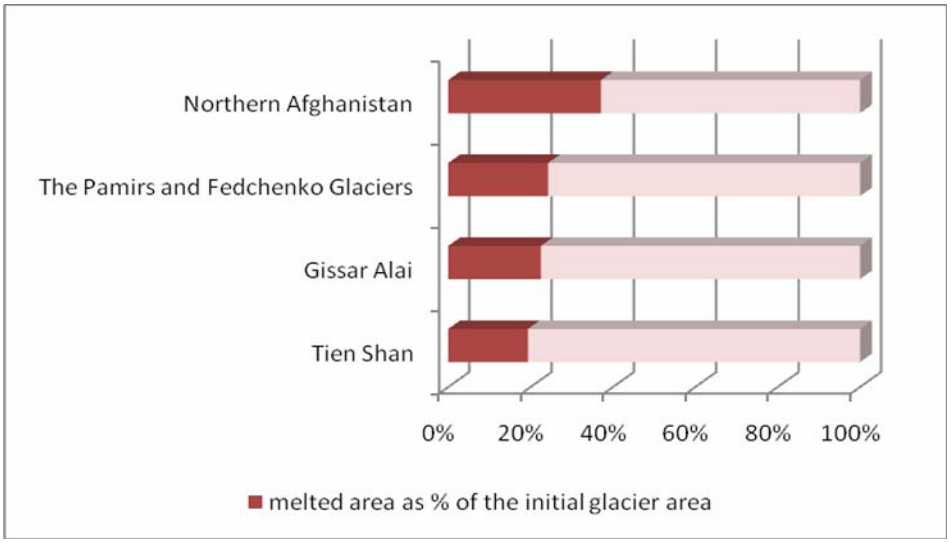
Due to climate change water supplies may become more strategic: in irrigated agricultural regions most of the water is used for growing cotton and rice; in industrialized regions there is a need to provide water to an expanding local population and to meet the demands for economic growth. In this regard, Kyrgyzstan (and Tajikistan) occupy a unique position at the regional level. The main rivers in the region, Amudarya and Syrdarya, begin in those two mountainous countries forming water flows for the rest of Central Asia. A study of the vulnerability of water resources in Kyrgyzstan shows a relatively favourable trend for that country. However climate change may trigger the glacier volumes and water flow that plays a vital role in water supply for the downstream countries therefore may lead to greater tension over the use of water in Central Asia.

There is degradation of glaciers in the region, which aggravates water scarce issues, including the crisis of the Aral Sea. Glaciers have been melting in the mountains of Central Asia over the past 50 years. For

[37] Summary Report on Climate Change Studies in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, authored by Lola Abdusalyamova, at the request of NLRC and financing of DIPECHO

example, the area covered by glaciers in the mountains of south-eastern Kyrgyzstan has decreased by more than 40%[38]. A continuation of degradation can be expected caused by the accelerated melting of ice in the near future.

**Change in surface area of Central Asian glaciers in the last half of the 20th century**[39]




A change in climate will most likely cause the intensity of land degradation and expansion of the areas of desertification. According to studies, 70% of the potential damage from extreme weather and climactic conditions influences agricultural production. Since 1992, the types of businesses and forms of farming in rural areas have radically changed in the agrarian sector. The main form of farming in rural areas has become non-state enterprises. More than half of the population lives in rural areas, and their well-being is often connected to agricultural and livestock production.

Overall, the greatest harm to agriculture will come from the following hydro-meteorological factors:

- High air temperature accompanied by droughts
- Frosts and extreme cold air temperatures
- Intense rain, surface water flow and flooding
- Hail
- Strong winds and dust storms
- Agricultural pests and disease

[38] Summary Report on Climate Change Studies in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, authored by Lola Abdusalyamova, at the request of NLRC and financing of DIPECHO

[39] Source: State Administration for Hydrometeorology

## Seismic hazard

Of all natural hazards taking place in Kyrgyzstan, earthquakes are the most dangerous. Earthquakes take place unexpectedly and are often followed by secondary phenomena (landslides, rock falls, fires, etc.). Almost the whole territory of Kyrgyzstan is prone to high seismic hazards. Approximately 20% of the total area of the country (~40,000sq.km) is prone to potential earthquakes of high intensity (MSK 9), and in the 158,000sq.km of the territory (79%) earthquakes of intensity 8 MSK may take place[40].

The Institute of Seismology of the Academy of Sciences of the Kyrgyz Republic registers an average of 3,500 earthquakes annually, of which several have destructive impact on population, economy and infrastructure. Since 1970, the Kyrgyz Republic has been hit by 18 destructive earthquakes. One of the strongest was Suusamyr earthquake, which happened in 1992 with the intensity of 9 (MSK). As a result, 53 people died, and 60,000 were left homeless. 16,056 houses and many infrastructure facilities were destroyed. The total damage made a total of US $175 million. According to estimates, about 3.3 million people (or 66% of population) reside in seismically unsafe houses[41].

The below map of seismic hazards shows the expansion of territories prone to earthquakes with indication of various intensities (7-9 and above) where three levels of seismic hazard prone areas are identified.

*"The Haiti and Chile earthquakes should serve as a wakeup call for Central Asia and for its neighbours and international friends. Located at the intersection of the Indian and Eurasian tectonic plates, all Central Asian countries have significant zones of very high seismic risk – virtually all of Kyrgyz Republic, Tajikistan and Uzbekistan included – and all the big cities of Central Asia, with the exception of Astana, Kazakhstan's new capital, lie in high-risk areas. Indeed the cities in Central Asia have a dreadful history of seismic disasters: Tashkent, Uzbekistan's capital, was levelled by an 7.5 magnitude earthquake in 1966 with over 300,000 reported homeless. Ashgabat, Turkmenistan's capital, was substantially destroyed in 1948 by a 7.3 quake with between 110,000 to 176,000 deaths reported. Almaty, Kazakhstan's largest city, was severely damaged by earthquakes repeatedly between 1887 and 1911. Dushanbe, the capital of Tajikistan, experienced a 7.4 earthquake in 1907."*

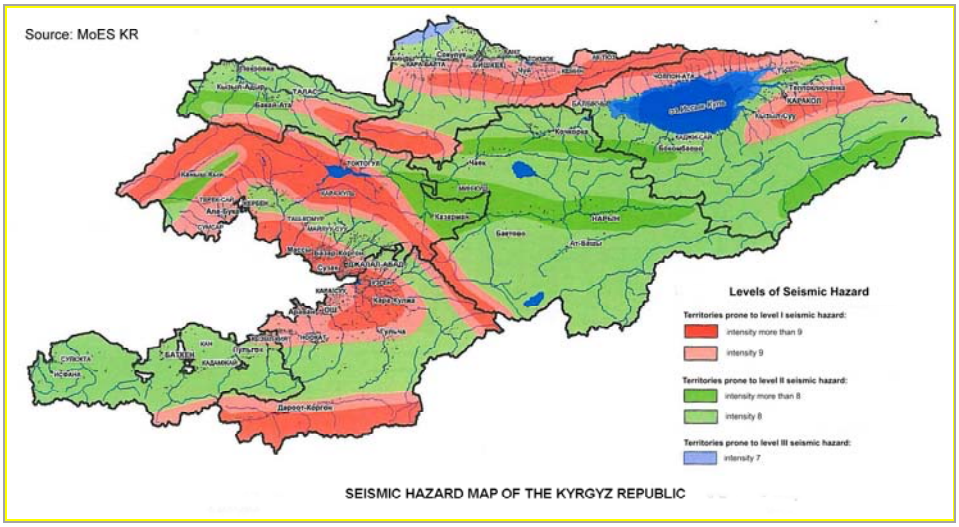
*Salvano Briceno*

*source:*http://www.brookings.edu/opinions/2010/0323_central_asia_linn.aspx

***Nura earthquake, October 2008, photo by UNFPA Kyrgyzstan***

[40] Data from CAIAG (Central Asian Institute of Applied Geosciences)
[41] Data from CAIAG (Central Asian Institute of Applied Geosciences)

Virtually all highlighted zones and subzones in the map represent high degree of risk to the population. Level I seismic hazard zones include mountain slopes of high and middle altitude relief layers of Kyrgyz Tien-Shan ridge, and partially the low altitude mountain and hillside valleys in the number of intermountain basins/valleys (Ferghana, Chui, Chon-Kemin, North and Northeast Issyk-Kul, South Alai). Large populated areas like cities of Bishkek, Osh, Jalal-Abad, Usgen, as well as the chain of power plants on the Naryn river are located in these zones.




According to the Institute of Seismology forecast for the next 5 years (2009-2014), high intensity earthquakes with magnitude of 5.2-6.6 and intensity of 6-8 may take place in the territories of North Tien-Shan (along the Kungei Ala-Too ridge).

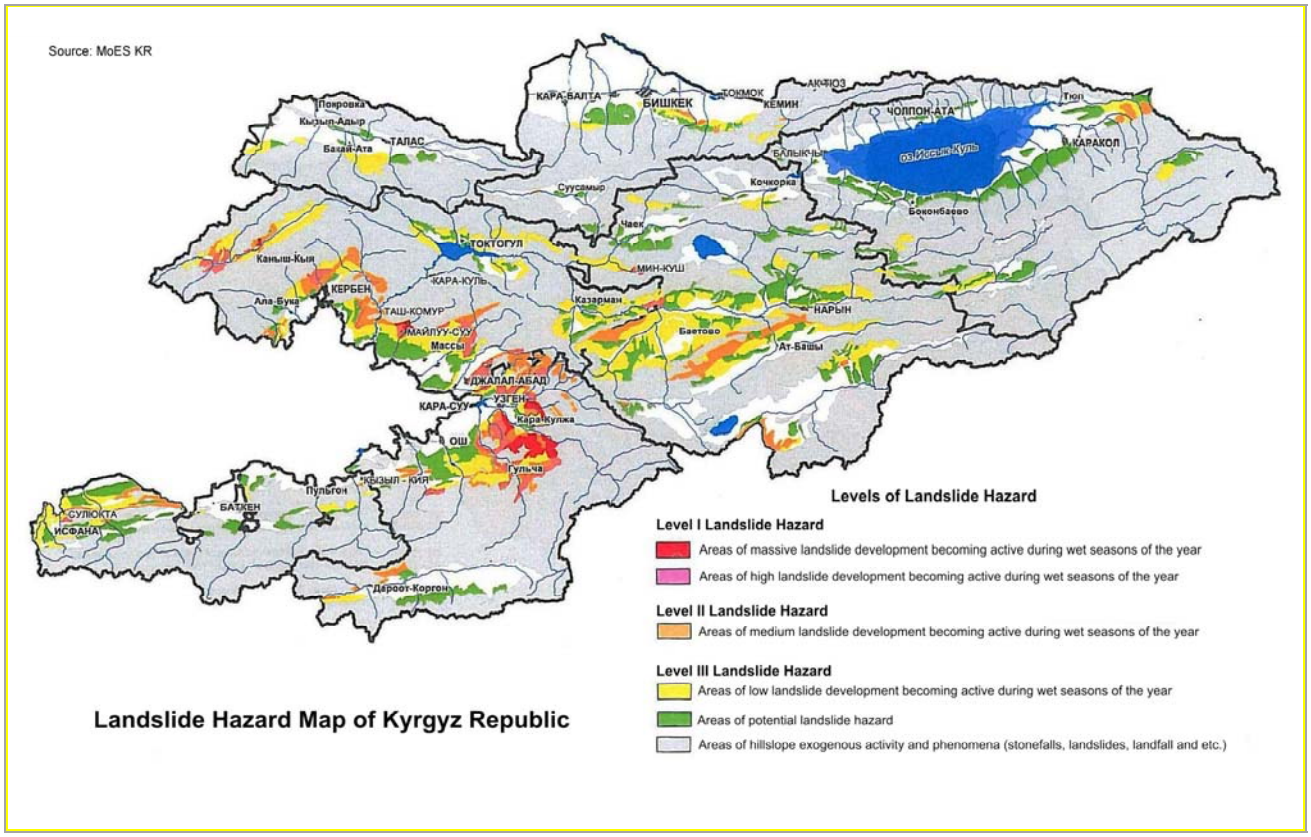
## Landslide hazard

There are more than 5,000 active landslides on the territory of the Kyrgyz Republic, of which 3,500 are located in the southern regions. To a certain degree, 509 settlements are exposed to the landslide process. These prone areas accommodate more than 10,000 houses, which require anti-landslide measures or resettlement of the population.


During the period from 1990 to 2008, there were 425 landslide emergencies on the territory of the Kyrgyz Republic; casualties from landslides during the period of 2002 to 2008 made 88 persons. During the first

nine months of 2009, there were 13 emergencies in Kyrgyzstan; the number of victims is 16. One of the problems in the study of landslides is the need to deploy on each prone surface a surveillance network with necessary instruments providing remote information on deformation processes and dangerous motions[42].

During the last 15 years, over 300 catastrophic disasters caused by landslides were registered, which resulted in economic damages and loss of life. The most "landslide active" period was in the year 1994, when 115 people died, and the period of 2003-2004. In the village of Kara-Taryk (April 2003), 38 people died under the landslide. In April 2004, 33 people died in the village Budalyk. During the recent years, it is observed that landslide processes have become more active and new locations of landslide hazard emerged even in those regions, where due to geological conditions landslides are less likely to happen. This may be caused by climate change and seismic activity processes.




The most reasonable way to protect the population from landslide hazards in Kyrgyzstan is timely evacuation and resettlement of people from dangerous zones based on landslide development forecasts. Construction of protective structures and landslide stabilization measures are implemented only in several locations because of substantial demand for resources and funds. During the past decades, over 8.5 thousand residential homes were destroyed as the result of disasters caused by landslide processes[43].

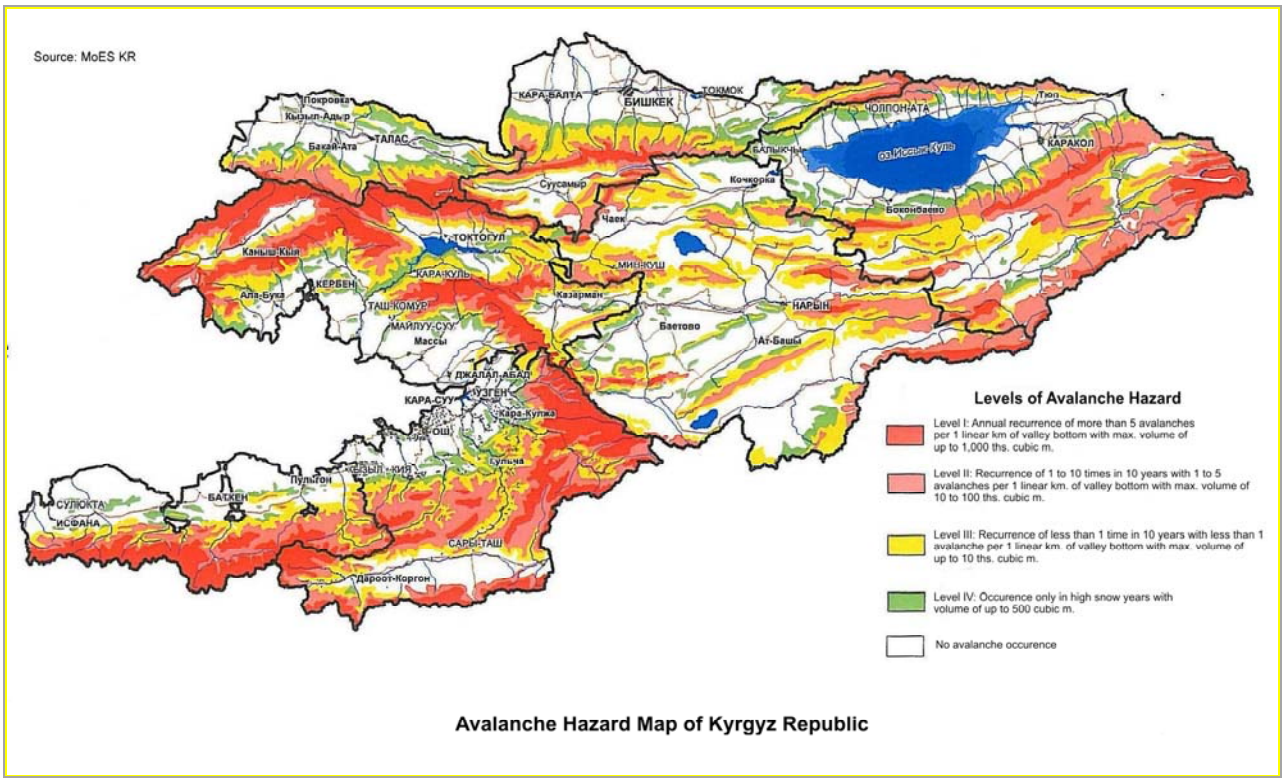
[42] Disaster risks reduction at the local level: successful experience of DIPECHO partners in Kyrgyzstan, a publication of the MoES KR, DG ECHO, UNDP, IOM, ACTED, RCS, NLRC, Save the Children, Mehr-Shavkat

[43] Data from CAIAG (Central Asian Institute of Applied Geosciences)

## Avalanche hazard


More than one-half of the territory of the Kyrgyz Republic is exposed to the avalanche hazard. The duration of the avalanche season is from 5 to 7 months. According to the data from the Ministry of Emergency Situations of the Kyrgyz Republic, monitoring and forecasting is performed on 772 avalanche prone areas, which are mostly dangerous to the traffic on motor roads, settlements located near the avalanche prone areas, as well as tourists, alpinists and sportsmen.

During the period of 1990-2009 there were 298 avalanches on the territory of Kyrgyzstan. The number of casualties for the period 2002-2008 amounts to more than 56 persons. During the first nine months of 2009, there were 35 avalanches in the republic.

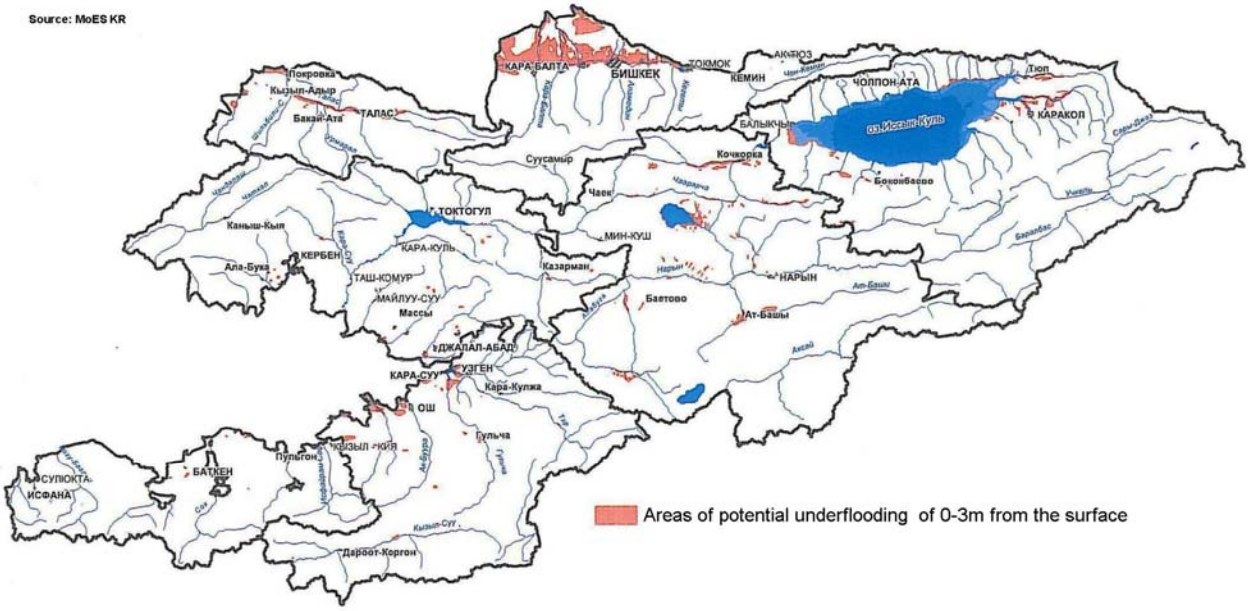



Avalanche Hazard Map of Kyrgyz Republic

## Under flooding (water logging) caused by increased groundwater levels

According to the data from the Kyrgyz Comprehensive Hydrological Expedition, the under flooding processes exist in the Kyrgyz Republic on the area of 3,200 sq.km. Currently, the under flooding processes exist on the territory of 316 settlements and significant areas under crops.

The largest waterlogged areas which are located in the central part of the Chui intermountain valley produce a negative impact on residential houses, social infrastructure facilities, agricultural lands and private land plots in Bishkek (northern part), Kant, Tokmok, Kara-Balta as well as some other towns.




**Groundwater Flooding Forecast Map of Kyrgyz Republic**

There is a narrow waterlogged strip in the central part of Talas basin, which affects a number of residential houses in Talas city. There are also a number of waterlogged areas in the western and eastern parts of Issyk-Kul intermountain valley near Lake Issyk-Kul, east part of Son-Kul Lake as well as a number of hydro-power plants of the Kyrgyz Republic - all these pose a risk of the slow destruction of residential houses as well as social, economic and cultural infrastructure facilities. The under flooding of territories and residential sector was registered near At-Bashy (Naryn region), Jalal-Abad, Osh, Batken as well as a number of settlements in the Osh region.

## Hazard of mudflows, flash-floods and water outbursts from high altitude lakes

There are around 3,900 mudflow and flood prone river basins on the territory of the Kyrgyz Republic with the length of 10km and more. There are cases of mudflow registered in 1,153 settlements, which resulted in various damages. The high level of mudflow and flood hazard is observed in Jalal-Abad, Osh, Batken, Chui, Issyk-Kul and Talas regions. There were 850 cases of mudflow and torrent floods registered in the Kyrgyz Republic during the period of 1990-2008; during the first nine months of 2009 there were 92 such cases.

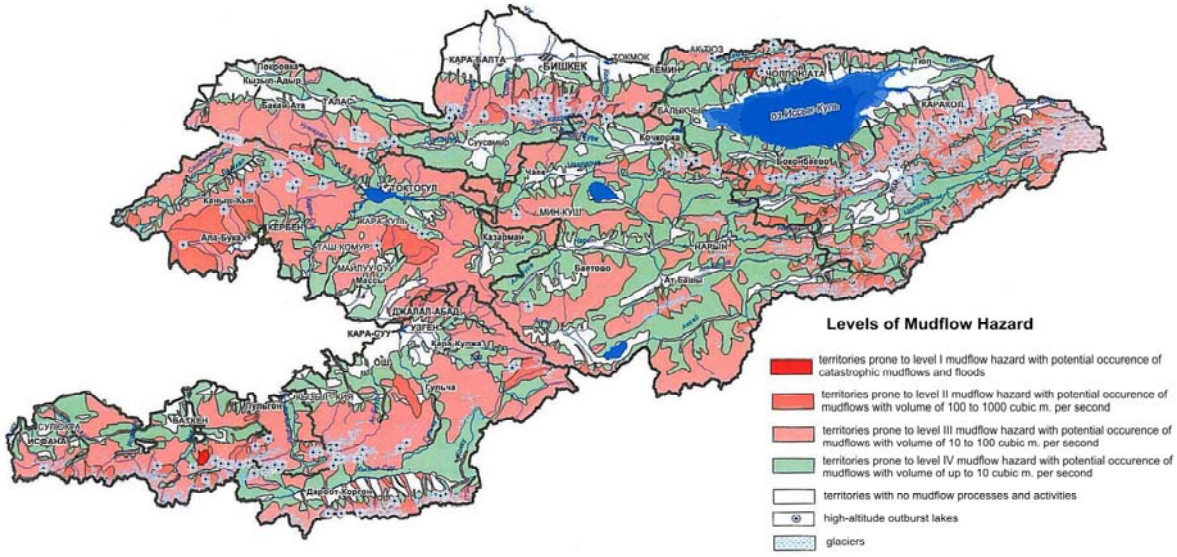
The most damaging flood, which took place during the past years, happened in 1998 on the Kurgart river, caused by destruction of river dam. As a result of this disaster, 1,199 residential houses and 40 administrative buildings were flooded and destroyed, causing a direct financial damage of a total of US $134 million[44].

The republic has around 2,000 high altitude lakes, of which 330 have unsustainable water dams and are included in the catalogue of water outburst prone lakes. There are more than 300 settlements in the areas of possible water outbursts from lakes. Mountainous lakes, which are protected with more sustainable dams, present a risk of water outbursts during earthquakes of high magnitude. There are also moraine and glacial high altitude lakes prone to water outbursts located in the upper reaches of mudflow and water flow prone rivers. During the hot season, due to melting of moraine and glacial dams, these lakes pose a risk of a catastrophic outburst of large volumes of water in the river basins. The outburst wave while entering the riverbed, picks soft rocks and stones with boulders, increasing the volume and destructive force of the mud-and-stone flow. These flows destroy everything on their way - houses, bridges, power transmission lines, dikes, dams as well as other facilities.

[44] Data from CAIAG (Central Asian Institute of Applied Geosciences)

Virtually the whole territory of the Kyrgyz Republic is prone to high risks from floods and mudflow hazards, – there are 3,103 rivers in the country, which are considered as highly dangerous in terms of potential mudflow and flood hazards.

Source: MoES KR

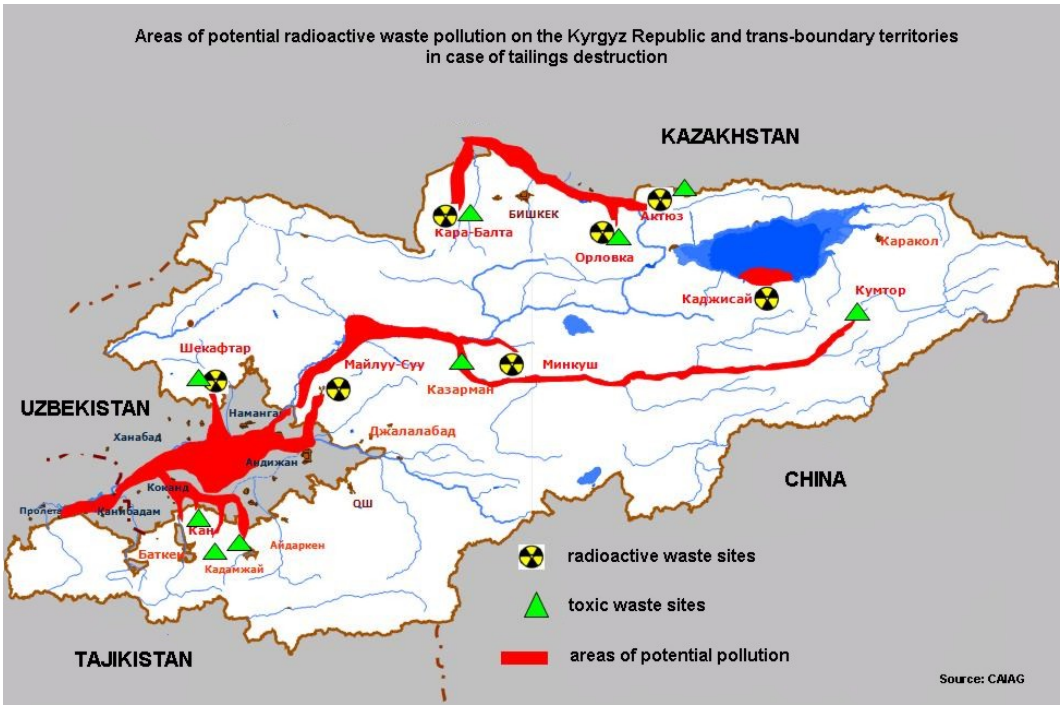



Mudflow Hazard Forecast Map of the Kyrgyz Republic

## Man-made disaster risks

There are 92 facilities on the territory of Kyrgyzstan where 250 million cubic metres of toxic and nuclear mining waste are stored. The Republic has 36 tailing pits and 25 tailing tiles that are managed by state structures; these include 31 uranium and 5 toxic storage sites with the total volume of 15.7 million cubic metres of waste.

The total number of toxic waste storage sites increased from 41 in 1999 to 48 in 2007, while the area under these storage sites has grown almost twice - from 189.3 to 381.3 ha respectively.




The international and national experts of the Kyrgyz Republic announced that there is a high level of risk of emergence of dangerous environmental catastrophes in case these storage sites become destroyed by natural processes. These catastrophes may affect significant territories in Kyrgyzstan, Kazakhstan, Tajikistan and Uzbekistan with the total number of population of 5 million.

According to the preliminary estimates, the costs of only priority measure to ensure the safe state of tailing pits will amount to USD 40 million.

# Institutional and legislative framework

The system of state bodies of the Kyrgyz Republic is formed of the following[45]:

**The government of the Kyrgyz Republic** is the supreme body of the executive state power of the Kyrgyz Republic. Subordinate to the Government are ministries, state committees, administrative agencies, local state administrations,

Other bodies of executive power include:

- The system of local self-government bodies:
- Local councils (kenesh), their executive-managing bodies
- Bodies of territorial public self-governing
- National Congresses (Kurultai)
- Meetings and gatherings of citizens, other bodies, formed by population

**State structure:**

State power in the Kyrgyz Republic is represented and realized by:

- The President of the Kyrgyz Republic
- The Parliament (Jogorku Kenesh) of the Kyrgyz Republic
- The Executive Body of the Kyrgyz Republic: (The Government of the Kyrgyz Republic and the Local State Administration)
- The Courts and justice system of the Kyrgyz Republic (Constitutional Court, Supreme Court, Local courts and judges)

The executive power is realized by the Government of the Kyrgyz Republic, the Local state administrations (province and district) and their structures. The government of the Kyrgyz Republic is the supreme body of the executive power of the Kyrgyz Republic. It conducts the activity of the ministries, agencies and local state administrations. It receives reports of the heads of the ministries and agencies, and of the heads of the local state administrations. The Local state administrations (province state administrations, district state administrations) realize executive power on the territory of a province, district. The local state administrations on the proper territory provide a coordinated activity of the territorial subdivisions of the ministries, administrative agencies and other central executive bodies of the Kyrgyz Republic. The heads of the province state administrations in their own activity are accountable to the President of Kyrgyz Republic and the Prime Minister of the Kyrgyz Republic. The heads of the district state administrations are accountable to the President of Kyrgyz Republic and the Prime Minister of the Kyrgyz Republic and to the head of the province state administration.

**Ministry of Emergency Situations of the KR**

The Cabinet of the Kyrgyz Republic (as part of the USSR) approved the Resolution "On the State Commission on Emergency Situations" on July 1, 1991 in order to protect the population and economy infrastructure from emergencies. The Commission was transformed into the State Commission on Emergency Situations and Civil Defence (SCES CD) by the Decree of the President of the Kyrgyz Republic on May 27, 1993. In 1996, the SCES CD was transformed into the Ministry on Emergency Situations and Civil Defence (MES CD). In 2001, MES CD and the Ministry of Environmental Protection were merged. As a result, the Ministry of Environment and Emergency Situations (MEES) was established. In 2005 it was transformed into the Ministry of Emergency Situations of the Kyrgyz Republic by the Decree of the President of the Kyrgyz Republic.

The Ministry of Emergency Situations of the Kyrgyz Republic is responsible for the implementation of the state policy in prevention and elimination of natural and man-made emergencies, performance of controlling and permitting functions of the governance in the sphere of industrial safety supervision, mining

[45] http://old.eng.president.kg/instituts_ev/

supervision, hydrometeorology provision and fire protection. At present, the Ministry of Emergencies undertakes a complex of organizational-legal interventions aimed to reform the current system of population protection. The goal of the reform is to establish and improve the civil protection system of the Kyrgyz Republic based on integration of the Standard State System of prevention and elimination of emergencies and civil protection of the Kyrgyz Republic into the State System of Civil Protection.

The Government of the Kyrgyz Republic approved the Regulation "On the Ministry of Emergency Situations of the Kyrgyz Republic" by its Resolution from 16/05/2007, under No.175

The Ministry of Emergency Situations of the Kyrgyz Republic (MoES) is the central body of the executive state government, which is responsible for performing the tasks of population protection from natural and man-made emergency situations, prevention and response, civil defence, technological and technical safety monitoring of industry and mining, as well as fire safety.

The MoES activities are governed by the Constitution of the Kyrgyz Republic, the existing legislation, executive orders and decrees of the President of the Kyrgyz Republic, orders and directives of the Chief of Defence Forces of the Kyrgyz Republic, decrees and resolutions of the Government of the Kyrgyz Republic, other existing regulations of the Kyrgyz Republic, and by the Regulation "On the Ministry of Emergency Situations of the Kyrgyz Republic".

In close cooperation with other line ministries, state committees, administrative bodies, international and non-governmental organizations, the MoES carries out its tasks directly, or through its subordinate institutions.

The MoES is funded from the government budget and from allocations to the disaster response fund.

**Regulatory Legal Acts governing the MoES activities[46]:**

**Laws:**

| | | |
|---|---|---|
| The Law of the Kyrgyz Republic **"On allocation of resources for prevention and response to emergency situations in the Kyrgyz Republic"** | from 27/02/1992 | under No. 760-XII |
| The Law of the Kyrgyz Republic **"On Civil Defence"** | from 20/01/2000 | under No. 31 |
| The Law of the Kyrgyz Republic **"On emergency rescue services and the status of rescuers"** | from 21/01/2000 | under No. 35 |
| The Law of the Kyrgyz Republic **"On tailings and mountainous dumps"** | from 26/06/2001 | under No. 57 |
| The Law of the Kyrgyz Republic **"On Civil Protection"** | from 20/07/2009 | under No. 239 |

**Decrees and Regulations:**

| | | |
|---|---|---|
| The Decree of the Government of the Kyrgyz Republic **"On classification and evaluation criteria of emergency situations"** | from 29/11/2000 | under No.702 |
| The Regulation **"On the Flag and Insignia of the Ministry of Ecology and Emergency Situations of the Kyrgyz Republic"**, endorsed by the Decree of the Government of the Kyrgyz Republic | from 2/10/2001 | under No. 597 |
| The Regulation **"On the Unified State Emergency Preparedness and Response System"**, endorsed by the Decree of the Government of the Kyrgyz Republic | from 23/10/2006 | under No.746 |
| The Regulation **"On the Ministry of Emergency Situations of the Kyrgyz Republic"**, endorsed by the Decree of the Government of the Kyrgyz Republic | from 16/05/2007 | under No.175 |

The list of other DRR related legislation is provided in Annex 1.
The list of institutions active in Disaster Risk Reduction is provided in Annex 2.

[46] http://www.mecd.gov.kg/low.html

## Implementation of the legislation

The Government of the Kyrgyz Republic integrates disaster risk reduction in the national legislation, strategies and programs for preventing and minimizing human and economic loss related to natural and man-made hazards. All sectors of the society, central and local government structures, the rapidly developing private sector, and communities are embraced by the programmes and strategies. The government and the parliament determined the sphere of disaster risk reduction as one of most important directions. Implementation of the programmes and plans is supported by the necessary legislative acts, standards, and norms.

The executive branch of the Government works to ensure implementation of the strategic documents in all sectors of the society. Interaction of research institutions, civil society organizations, municipal structures and local governments is aimed at building up the resilience of the population to disasters and increasing the level of awareness and information in the area of disaster risk reduction. Elements of disaster reduction are being introduced in the formal education, at community level, and the territorial organs of the Ministry of Emergencies constantly work with the management of enterprises and private sector organizations for enhancing their ability to withstand hazards and threats.

To strengthen the existing cooperation of the Ministry of Emergency Situations of the Kyrgyz Republic with the scientific institutions and stakeholder governmental bodies of the Kyrgyz Republic on disaster risk management and response to emergencies, a Scientific-Technical Council was established by the Decree of the Government (from 7/09/2009, No. 500) under the Inter-Agency Commission for Disaster Management and Response to Emergencies. To improve the quality of monitoring activities and to enhance the accuracy of forecasts, the Ministry of Emergency Situation of the Kyrgyz Republic organizes, utilizing the available resources, scientific researches together with the Institutions of the National Academy of the Kyrgyz Republic: Institute of Seismology (earthquakes), Scientific Research Centre “Geopribor” of the Institute of Geo-Mechanics and Subsurface Resource Reclamation (landslides), Institute of Water Problem and Hydro-Energy (water logging), Institute of Geology (landslide processes), the Kyrgyz Complex Hydro-Geological Expedition of the Ministry of Natural Resources of the Kyrgyz Republic (exogenous processes), Joint Stock OshGIIZ (Engineering-Geological Research).

The most important laws in Kyrgyzstan related to preparedness and response to emergencies are:

(i) the Law on Tailings and Waste Rock Dumps,

(ii) the Law on Radiation Safety of the Population of the Kyrgyz Republic, the Law of the Kyrgyz Republic on Protection of the Population and Territories from Natural and Man-made Emergency Situations, and

(iii) the Law of the Kyrgyz Republic on Civil Protection.

While the legislation is generally acceptable and it defines authorities, roles and responsibilities at all levels of the government and in the private sector, the implementation is challenging, because of the lack of regulations to support the primary legislation and the lack of coordination, technology, and resources to implement the necessary measures.

The MoES is the national lead agency for disaster risk management in the country. A considerable authority on disaster management is delegated to local governmental bodies (Ayil Okmotu), however despite the ongoing decentralization process they have extremely limited ability to act upon disaster management issues because of lack of capacity and resources and the absence of an integrated DRM system that would define roles and responsibilities at the central regional and local self governance level. In addition, several NGOs, bi-lateral, international and multi-lateral agencies have implemented community level disaster risk management programmes, which have been sporadic and unsustainable.

# Trends in DRR

## Implementation of the Hyogo Framework for Action[47]

The Government of the Kyrgyz Republic consistently works for enhancing the capacity of the country to timely respond to calamities, while taking all measures to minimize losses before the disasters happen. The short-term and long-term recovery programmes aim at the soonest recovery from disasters, rehabilitation and return to the normal life and functioning of the economy, combining the human, financial and other resources of the society at all levels.

Emergency preparedness among all sectors of the society becomes more important in view of climate change and weather extremes, and mobilization of intellectual, economic, and technical resources in this field is vital in ensuring progress.

The Interagency Commission on prevention and mitigation of emergency situations, the Commission on evacuation and sustainable development of the national economy branches and objects in case of emergencies during the peaceful and war time are established by the special Decree of the Government of the Kyrgyz Republic. The Regulation on the commission was approved.

Similar Commissions of Emergency Situations are established at the levels of provinces, cities and districts, in the ministries and authorities, and at large business entities as well, etc.

Services on the civil defence were established on the basis of the ministries and authorities by the Decree of the Government of the Kyrgyz Republic. The Provisions of the civil defence services of the Kyrgyz Republic are approved by the Decree of the Government of the Kyrgyz Republic.

Unarmed units of the civil defence are established and their Provisions are approved by the Decree of the Government of the Kyrgyz Republic.

Coordination Group on emergencies response (REACT) comprising international and non-governmental organizations, ministries and authorities, Government of the Kyrgyz Republic (donors, NGOs, bilateral and multilateral organizations, etc.) is established and functioning. This mechanism is aimed at the coordination of the operative response to emergency situations, provision of the humanitarian assistance, and rehabilitation activities.

Every year, funds for mitigation of disaster consequences are allocated from the state budget and the budgets of administrative-territorial divisions: provinces, cities, districts, etc.

These funds are distributed by the Inter-agency Commission on prevention and mitigation of emergency situations upon submission of the supporting documents prepared by emergency commissions in the fields.

Funds allocated by the Government for prevention and mitigation of emergency situations are insufficient and make maximum 10% of the damage caused by disasters to the population and the country economy. Small funds are allocated for the implementation of river bank strengthening and preventive activities in the most dangerous areas; this makes only a small part of the planned activities.

Community participation and decentralization is ensured through the delegation of authority and resources to local levels. The power of executive authority at the level of communities, rural and urban bodies that work directly with the population on disaster prevention, response and mitigation are not fully determined, and are not clearly reflected in the relevant documents determining the goals and objectives of these bodies. The structural subdivisions of the MoES of the Kyrgyz Republic are of great importance in the activity with local population.

A number of international and non-governmental organizations and donors together with the MoES of the Kyrgyz Republic work with communities on increasing the level of public awareness of the risks and contributing to the capacity building of the population on disaster preparedness and participation in disaster risk reduction activities. A successful example of this development is the fact that national non-governmental organizations, from the National Red Crescent Society of Kyrgyzstan and its nationwide

[47] HFA monitoring report Kyrgyzstan, 2009

network to small NGOs involved in rendering of specific services, including their institutional role in disaster preparedness and response, actively participate in disaster risk management.

Because of insufficient budget funds the structural subdivisions of the MoES of the Kyrgyz Republic operate only at the level of districts, and the activities of international and non-governmental organizations are implemented only during the project period and are of temporary character.

Disaster prevention is one of the key objectives of the MoES of the Kyrgyz Republic and other commissions at all levels. However this objective is not implemented by the national, regional and local authorities appropriately. Local authorities often face the shortage of knowledge, resources and capacity to participate in disaster risk management activities. Mechanisms promoting the timely and appropriate assistance to vulnerable communities in case of a large-scale disaster require relevant agreement between the Government and international community. The role and responsibilities of the state bodies and other participants at different administrative levels still have to be clarified with regard to the issues on disaster preparedness, prevention and risk reduction.

## DRR in national strategies and documents

According to the Government, the National Strategy for Sustainable Human Development, adopted in May 1997, is the appropriate framework for risk management of disaster hazards. The broad objective of the government policy in this area is to reduce the vulnerability of the population and the economy to hazardous processes. In this respect, five specific goals have been set: (i) to provide timely warning to the public of the threat of natural and man-made disasters; (ii) to reduce and mitigate human and material losses from disasters; (iii) to establish a single monitoring system to ensure safety of the population; (iv) to improve disaster preparedness by way of population training; and (v) to improve rescue preparedness against disasters. In terms of strategies and plans, Kyrgyzstan disposes the National Environmental Health Action Plan (NEHAP, 1997) which includes a chapter on natural and industrial disasters[48].

In Kyrgyzstan, the Country Development Strategy for 2009-2011 has a whole component on management of comprehensive protection of the population and territories from natural disasters and accidents. The formation of the Uniform State System of the emergency prevention and mitigation was completed as a transition stage to formation of new state system of civil protection uniting tasks and functions of two protection systems. The given system includes authorities, forces and resources of the national structures of executive authority, institutions of local government and organizations, irrespective of ownership forms and their powers include solution of issues in the field of protection of the population and territories from emergencies. The coordinating body is the Interagency Commission on Emergency Prevention and Mitigation chaired by the Prime Minister of the Kyrgyz Republic.

## Urban safety

The territory of the Kyrgyz Republic is prone to high seismic risks and is characterized by zones of earthquake intensity of 8 and 9. 194 populated areas of the Kyrgyz Republic are categorized according to the existing standard construction norms and rules (SNaR KR 20-02: 2009), of which 74 are located in the areas prone to potential seismic hazards, with intensity of seismic activity of 9 and more. Among the indicated number of populated areas, there are 9 cities, 16 district centres and towns, as well as 49 villages. Moreover, 27 residential areas located in high seismic risk zones of intensity 9 are under effect of unfavourable geological conditions (collapsible soil, high level of ground water, tectonic faults, rugged topography, etc.). Such conditions characterize about 30% of the Bishkek city territory - the capital of the Kyrgyz Republic. Overall, about 3 million people live in the territories prone to seismic hazards: this is almost 63% of the total population of the Kyrgyz Republic[49].

The city of Bishkek is located in the Chuy Valley in the northern foothills of the Kyrgyz Ala Too Mountains on an incline. In immediate proximity to Bishkek within the limits of the Northern Tien Shan zone in a latitudinal direction lies the Chong Kurchakskiy fault line, and along the northern foothills of the ridge - the Issyk Atinskiy fault line. These two fault lines are seismically dangerous: during a strong earthquake, such

[48] Source: Kyrgyzstan, Disaster Hazard Mitigation Project, World Bank 2004

[49] Kyrgyz Research & Design Institute for Earthquake Resistant Construction (KNIIPS), kniips@elcat.kg

zones and covering deposits may suffer from residual seismic deformation, drastically intensifying seismic effects on the surface.

The second biggest city – the city of Osh is located in the south east of the Fergana Valley in the foothills of the Alay Ridge on poorly formed alluvial and proluvial surfaces of the foothill plains of the debris cone of the Ak Bura river. The absolute altitude of Osh increases from north to south from 900 to 1200 metres. The main river Ak Bura has a length of 90km, a basin area of 2,540 square kilometres and an incline of 31 percent. The river is prone to mudflows with mudflow recurrence every year or more frequently. The territory of the Osh city is characterized by seismic activity, and the intensification of hazardous natural processes and phenomena. The impact of hazardous processes may lead to occurrence of natural and man-made disasters of which the most significant would be earthquakes, mudflow, floods, surface flooding, settlement of soils, erosion, gully formation, groundwater rise, landslides and rock-falls.

Of the total new residential houses constructed or under construction in the residential blocks of Bishkek city during the period 1998-2001, almost 79% do not comply with the present day norms and rules of seismic safe construction, and thus, may not be considered as seismic safe[50].

During the recent years, a steady tendency is observed in the area of reconstruction and conversion of existing dwelling spaces into various social service facilities. Hence, only for the period of 1994-2001, the Kyrgyz Research & Design Institute for Earthquake Resistant Construction (KNIIPS) surveyed various social service and production facilities and residential houses with a view to identify the possibility of their conversion, reconstruction and redesign. The survey of the selected facilities and structures has showed that not all of them comply with the existing norms and rules for seismic safe construction, which necessitates conducting of even more detailed assessment and inspection in this area.

Within the State Construction System of the Kyrgyz Republic, a unified national database has been created, which provides all technical characteristics of an urban structure or a facility, and particularly its earthquake resilience and seismic safety, architectural and engineering design, year of construction, category of the building, vulnerability to seismic effects, amortization, etc. However, this database may not be considered as complete, since not all agencies active in urban construction and development, who conduct such surveys, provide timely and detailed information.

## Hospital safety[51]

Ensuring the safety of all hospitals during disasters is an important issue for the country. When a disaster occurs, people address nearby hospital for medical assistance, regardless of whether it can or cannot operate because of the disaster. Therefore, it is very important to define the level of hospitals safety at disaster times.

It is very important to maintain key healthcare services in the face of natural disasters, and to increase the potential of important medical institutions, and first of all hospitals. If hospitals are destroyed, it is not possible to care for the injured properly. In order not to exacerbate trouble with chaos within hospitals as a result of acts of nature, hospitals should be prepared for the possible occurrence of various natural events. Thus, emphasis needs to be placed on preventative and preparedness measures. The preparation of healthcare institutions and their sustainability in the face of natural disasters is very important and so evaluations of the safety index should become an integral part of the activity of hospitals.

The Hospital Safety Index provides an overview of the probability of a hospital or health facility remaining operational in emergency situations taking into account the environment and the health service network to which it belongs. The Hospital Safety Index not only estimates the operational capacity of a hospital during and after an emergency, but it provides new means to warn of and reduce the consequences of natural disasters in the health sector. The safety index is not only a tool for making technical assessments, but it also provides a new approach to disaster prevention and mitigation for the health sector. The index does not replace an in-depth vulnerability assessment, but it helps authorities to quickly determine where interventions can improve safety.

[50] Kyrgyz Research & Design Institute for Earthquake Resistant Construction (KNIIPS), kniips@elcat.kg
[51] Based on the information provided by WHO Office in the Kyrgyz Republic

In February-March 2009, at the request of the WHO Office in Kyrgyzstan, an assessment of the hospital safety index of three hospitals was carried out:

1. National Centre for the Protection of Motherhood and Childhood (in Bishkek)
2. Bishkek Trauma and Orthopaedic Research Centre (Bishkek)
3. Osh Provincial Joint Clinical Hospital (Osh)

A team of experts, representing the Kyrgyz Seismic Construction Research Institute; the Hospital Association of the Kyrgyz Republic, the Department of Health Policy Analysis of the Ministry of Health's Health Development Centre carried out the assessment. The evaluation team also included representatives of the administrations of the hospitals assessed – deputy chief physicians for economic issues, representatives of civil defence services, managers and clinicians.

The assessment was carried out between 20 February and 20 March, in accordance with the "Hospital Safety Index: Guide for Evaluators", published in 2008, developed by the Pan American Health Organisation and approved in Latin American countries. During the evaluation, materials provided by the hospitals were studied, as well as the Ministry of Emergencies' "Monitoring, Forecast of Hazardous Processes and Phenomena in the Kyrgyz Republic" of 2009, "Construction Norms and Rules" (CNaR) – 22-01-98 of the Kyrgyz Republic on Evaluation of seismic resistance of existing constructions".

A report was submitted to the Ministry of Health based on research materials with the participation of heads of healthcare institutions. A press conference and a talk show were organized on the hospital safety issues in the Kyrgyz Republic.

The results of the evaluation show that the hospital safety index in all three hospitals is in the range of 0.36-0.65, which places them in category B. Measures need to be taken in the short term. The current level of safety is such that the lives of patients, and hospital staff, and the possibility of functioning during and after a natural disaster are at potential risk. Analysis of the results indicates that hospitals in the Kyrgyz Republic require taking of timely action to reduce structural and non-structural risks. The hospitals functional preparedness to emergency situations caused by natural hazards remains at an organisational rather than practical level and there is a low level of awareness among hospital personnel about how to reduce structural and non-structural risks; how hospitals should work during natural disasters.

## Disaster insurance

Currently, the market offers coverage for all natural disasters (including earthquakes, floods and wind) as part of all-inclusive property coverage for homeowners and enterprises. The estimated level of insurance penetration for all-inclusive residential property is very small - around 10,000 policies country-wide, which is less than 1 per cent of all insurable urban dwellings in the country. Most insurance policies have been taken out by mortgage borrowers at the request of banks affiliated with insurers. However, over the last few months, due to the precipitous declines in property values and the ongoing deleveraging of the banks' balance-sheets, mortgage lending came to a halt, thus putting on hold insurers' efforts to gain new business.

Due to lack of insurance culture and the general mistrust of the population of insurance companies, there are virtually no voluntary buyers of insurance coverage.

The terms of coverage and pricing are highly favourable to the insured - deductibles rarely exceed 2 per cent, but in most cases tend to be zero, while premium rates hover at the level of 1 per thousand of sum insured for all-inclusive property coverage of below. There are no sub-limits for natural perils and the loss settlement is done on the basis of replacement value.

Insurance companies have a genuine lack of risk management skills and lack appreciation of the enormous loss potential inherent in writing the all-inclusive property covers in earthquake-prone areas. Despite a rather small capital base (the current statutory minimum capital requirement for insurers is less than $0.5 million) there are no additional solvency margin requirements. Except in the case of large industrial or commercial risks, insurers generally do not buy excess of loss reinsurance to protect their risk retentions, and some do not buy any reinsurance at all unless specifically requested by their large commercial clients.

Insurance companies generally do not manage their risk accumulation and have no estimates of their real risk exposure, such as probable maximum loss (for any given return period) for their portfolios of property business in disaster-prone areas.

While the pricing of insurance risk is highly favourable to homeowners, it is clearly not adequate to cover the costs of providing coverage for all property perils in the long-run. The premium rates in general and property insurance in particular, are driven by market competition only and are not sufficient to cover the cost of risk. For example, in neighbouring Kazakhstan the premium rate for an all-inclusive property cover is offered at the rate of 3-4 per thousand. In Turkey, the premium rate just for earthquake coverage (without including FLEXA perils) in Istanbul is about 3 per thousand of sum insured. As a result of this risk under-pricing, local insurers cannot afford reinsurance, which leaves them highly exposed to the risk of earthquakes and insolvency in case of a major catastrophic event as they will be unable to honour the claims of their clients.

The typical sum insured amounts to either 120 per cent of the loan value or the real value of the property, whichever is higher. Local insurers tend to shy away from insuring mud-made structures, which are highly vulnerable to both earthquakes and floods.

There was an attempt by the Government to introduce a compulsory disaster insurance law, but the law rejected by the Parliament for being at odds with the country's Constitution[52].

## Successful experience of DRR actors in Kyrgyzstan[53]

The United Nations Development Programme in Kyrgyzstan commenced its activities in the area of disaster management in 2005. During the period of 2005 - 2008 the United Nations Development Programme jointly with the Ministry of Emergency Situations of the Kyrgyz Republic implemented three projects - "Reduction of disaster risks in the most vulnerable communities of Osh and Jalal-Abad regions of the Kyrgyz Republic", "Strengthening the capacity of local self-governance organs in reduction of disaster in the South of the Kyrgyz Republic" and "In-creased capacity in preparedness and mitigation of disasters of the organs of local self-governance and communities most exposed to earthquakes, mudflows, floods, landslides and avalanches".

In 2008 the activity of UNDP in this area was united in a special programme "Disaster Risk Management" which is currently implementing two large scale projects: "Enhancing coordination in the disaster response in the Kyrgyz Republic" and "Mainstreaming disaster risk management in the decentralization process in Kyrgyzstan".

The analysis of existing problems in the area of civil defence shows that the institutional framework for ensuring the activity in the disaster risk management at the level of local self-governance bodies (LSG) needs significant improvement. More specifically, this concerns the clear definition of the role of the LSG in this area, which in turn to a great extend depends on the ongoing reforms in Kyrgyzstan in the decentralization of public administration. One cannot neglect the imperfect legislation and unclear roles of the local self-governance organs in the disaster risk management; absence of mechanisms of disaster risk management in the LSG; spontaneous and not systematic work in the area of disaster risk management at the community level. In this respect and with the support of UNDP, in the Kyrgyz Republic the Strategy Paper was drafted to define the role of the LSG in the disaster risk management. This document reflects the overall interest of the Ministry of Emergency Situations (MES) as the authorized state agency in the area of disaster prevention and liquidation as well as the State Agency on Local Self-Governance, as the responsible agency to ensure further decentralization of public administration and development of local self-governance.

The International Organization for Migration (IOM) Since the inception of the presence in the Kyrgyz Republic, the IOM has been working in the areas where its experience can be promptly applied and be the

[52] A Study of Catastrophe Risk Financing Options, Mitigating the Adverse Financial Effects of Natural Hazards on the Economies of Central Asia, World Bank, UNISDR, CAREC, 2009

[53] Disaster Risk Reduction at the Local Level: Successful Experience of DIPECHO Partners in Kyrgyzstan, Publication for DIPECHO Second Regional Consultative Conference, October 2009, Kyrgyzstan

most useful. These areas include border management, migration policy, prevention of human trafficking, informing potential environmental migrants living in exposed zones on disaster risks and increased preparedness to disasters.

IOM has been active in the area of reducing disaster risks since 2000, accumulating the experience in this area by the implementation of practical programmes on raising awareness of local population and reduction of disaster risks. In its turn, this improves control over the processes of non-regulated migration.

One of the projects implemented by the IOM within the framework of DIPECHO is "Assistance to the vulnerable population of Kyrgyzstan in the area of disaster preparedness".

Currently within the framework of DIPECHO, IOM is implementing the project "Capacity building of local authorities and communities in disaster prone regions of Kyrgyzstan". One of the major activity of the project aims at modernizing of Training Course Centre of Civil Defence under the Ministry of Emergency Situations. Other objectives are: development of a standardized methodology of training in the disaster preparedness; conducting of informational campaigns and removal of non-structural risk in 30 schools of Kyrgyzstan located in the most vulnerable districts; development of manual on mitigation activities for Ayil Okmotu (Local Governing Bodies), as well as conducting series of trainings for the representatives of local administrations.

The Netherlands Red Cross works jointly with the national societies of the Red Crescent of Kazakhstan, Kyrgyzstan, Tajikistan, and Turkmenistan. The Netherlands Red Cross is a non-commercial organization which aims at prevention and mitigation of human sufferings and improving the situation of vulnerable groups. The Society helps, protects and provides care to the victims of war, conflicts and natural disasters as well as those who need help due to other circumstances.

The efforts of the National Red Cross to prevent the disasters in the Central Asia are viewed within the context of policy and strategy adopted by the Movement of the Red Cross and Red Crescent. In terms of disaster management, the priority tasks for the Central Asia are the detection of preparedness to strengthened training of communities to the liquidation of the aftermath of disasters by providing material aid, conducting workshops on first aid and management, creating local committees on emergencies, increasing the awareness and development of partnership with other organizations and authorities.

Since 1992, the Netherlands Red Cross is maintaining close cooperation with the National Red Crescent Societies of the Central Asian countries in the following areas: response and preparedness to emergencies, first aid targeted towards the population, support to youth and capacity building. Since 2000, particular attention was paid to the programmes of development and approaches oriented towards the population. During last years, the NRC jointly with the local national societies of the Red Crescent was implementing programmes financed by DIPECHO in the Central Asia.

The Agency on Technical Cooperation and Development (ACTED) is actively involved in the implementation of projects on prevention and mitigation of the aftermath of emergencies as well as restoration and development of vulnerable communities after the disasters.

Since 1996, ACTED started its activity in the Central Asia by implementing projects in Tajikistan and subsequently expanding its operations in Kyrgyzstan and Uzbekistan. The projects fulfilled in Kyrgyzstan included: development of agriculture, rehabilitation of social infrastructural objects, development of vocational training, disaster risk reduction, labour migration mitigation and settlement of border conflicts.

During the last three years ACTED has been active in solving the issues of disaster risk reduction in the South of Kyrgyzstan. These efforts aimed at increased preparedness of the population to disasters, mitigation of the aftermath and improvement of response mechanisms in rural communities in case of emergencies. In order to reach these objectives, ACTED is cooperating with the EU Humanitarian Aid Department (ECHO) which provides financial support to two DRR projects.

The first of these projects, - "Comprehensive training of communities in the south of Kyrgyzstan" has been fulfilled during the period of March 2007 to April 2008, covering 35 villages in Osh, Jalal-Abad and Batken regions that are particularly exposed to natural disasters. The project aimed at increasing the awareness among the vulnerable rural population in Batken, Osh and Jalal-Abad regions on natural disasters, ensuring

their preparedness and improvement of disaster response mechanisms through the implementation of community-based projects, institutional strengthening and exchange of gained experience.

In July 2008, ACTED launched the second project, - "Reduction of risks and enhanced preparedness to natural disasters among vulnerable population in the rural communities of Fergana Valley", thereby expanding its activity in the area of disaster prevention in the neighbouring Tajikistan. In order to maximize the effectiveness and sustainability of interventions, the measures within the frame of this project were systemized on the basis of experience gained during the implementation of the previous project.

Save the Children Federation Inc. is a public foundation, which operates in 120 countries of the world and bases its activity on the Convention on the Rights of the Child. The main mission of the Foundation is to struggle for the rights of children to happy and safe childhood.

Office of Save the Children in Central Asia was opened in 2005 after charitable foundations "Save the Children" from the Great Britain and the USA were merged. This office is in charge of programs in Tajikistan and Kyrgyzstan. The activity of Save the Children in the Central Asia is aimed at defining the needs of the most vulnerable groups especially children, youth and women as well as assistance to the development of livelihood and sustainability of low income communities. The foundation is operating in Kyrgyzstan since 1994 within the framework of the regional programme and is implementing many projects aimed at the improvement of lives of children and ensuring their rights.

The activity of the foundation in the area of reducing the risks of natural disasters commenced with the implementation of the project "Providing social and psychological assistance to children - earthquake victims" with the financial support from DFID. The project aimed at protection of children and providing psycho-social aid to them after the earthquake in Kara-Suu and Nookat districts since February 2008 as well as children from Nura village of Alay district since October 2008. The objective of the project was to provide social and psychological assistance to children who suffered from an earthquake. This aid was an immediate response to earthquakes that happened in these regions.

United Nations Volunteers have always helped coordinate and provide relief to communities following major disasters, such as Hurricane Mitch in Central America in 1998, the Indian Ocean tsunami of 2004 and the earthquake in Pakistan in 2005.

UNV is active in promoting the vital contributions of volunteers and voluntary action - at local, national and international levels -also in disaster preparedness and mitigation. Through its global outreach, UNV advocates the importance of including trained and organized volunteers in any disaster response. It works towards the advancement of national policy and concrete action to strengthen support for, and recognition of, volunteers in disaster preparedness and mitigation activities. It is in this spirit of disaster response that the Government of Kyrgyz Republic (KR), United Nations organizations and key NGOs partners, have joined to form the Disaster Response Mechanism in Kyrgyzstan. This mechanism, assembled last year, is a coordinative, deliberative and consultative body established to develop and maintain a unified policy and strategy in disaster response and humanitarian aid in the Kyrgyz Republic. Under the guidance of a Coordination Unit (DRCU), disaster response is implemented in Kyrgyzstan by assigned national response groups within selected thematic areas of intervention.

UNV Kyrgyzstan has joined shelter specific local and international organizations to form the Shelter Sector. The overall strategy of the Shelter Sector is to assist national and local government with providing support to target vulnerable groups. Measures of this support include the provision of shelter winterization and camp management for both human and natural made disasters. In September 2008, the UNV programme in the Kyrgyz Republic entered into partnership with HelpAge International (HAI), Adventist Development Relief Agency (ADRA), Babushka Adoption, Public Association for Social Protection of Population (PASPP), and Resource Centre for the Elderly (RCE) to use existing volunteer networks in the Kyrgyz Republic and implement a winter contingency project under the Shelter Group of the National response mechanism.

A new project “Rehabilitation Riparian Forests of Kyrgyzstan” has been approved and fully funded recently under the One UN Programme in Kyrgyzstan. Currently the initial stage of the project has begun which comprises the UNV as an integral component. The scope of project objectives specifies the inclusion of disaster risk reduction and mitigation concepts into the UN volunteers tasks (Terms of Reference). This is

essential when the volunteers work in the remote areas, regardless of the nature and the specifics of their activities. The knowledge on DRR / DRM will be an important tool for UN volunteers working in the field. This is particularly important, when a disaster occurs and affects the remote area (Nura Earthquake example) and before the first response / recovery arrives, the volunteers may be of great and substantial assistance as they are present in the field and represent the UN at the very local level. The UN volunteers will proactively intervene in a community they are working with when a disaster strikes.

# Regional and international cooperation

The Government plays the lead role in ensuring donor support to the country. This support is based on the Country Development Strategy for 2007-2010. Within the Government, the Ministry for Economic Development and Trade has been assigned to coordinate the government's measures on humanitarian assistance and response. Other key ministries and agencies with whom donor coordination on humanitarian assistance is essential include: the Ministry for Emergency Situations (mandated to deal with all emergencies), the Ministry for Labour and Social Development, the Ministry of Health, the Ministry of Education, the Ministry of Industry, Energy and Fuel Resources, the National Agency on Local Self-Government, and the Ministry of Agriculture.

**Kyrgyzstan signed the protocol on the establishment of the Central Asian Coordination Centre for Disaster Response and Risk Reduction**

On November 6, 2007 at a regional consultation in Delhi the Ministers of Emergency Situations of Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan, recognizing the need for stronger regional cooperation on issues of disaster risk management, agreed to explore the possibility to establish a regional centre to deal with issues of disaster preparedness, response and risk reduction. They agreed to set up a working group to prepare details and modalities of such a centre and requested UN-OCHA to support and facilitate the meetings of this group. It was further agreed in Delhi that the cooperation around this regional centre could be extended to other countries. In this respect, UN-OCHA has informed the Turkmenistan Permanent Mission to the UN in Geneva and the Ministry of Foreign Affairs in Turkmenistan through the Resident Coordinator.

Since then, series of working meetings were conducted where representatives of the Central Asian states have indicated the importance of regional cooperation on disaster risk management, response and risk reduction. The need for regional cooperation was stressed many times given the trans-boundary impact of emergencies in the region and it was reiterated that establishment of Central Asian Coordination Centre for disaster risk management would be a significant progress in the overall DRR initiatives of the Central Asian states and cooperation in the area of emergency preparedness and risk reduction.

In August 2008, the Governments of the Republic of Kazakhstan, the Kyrgyz Republic, and the Republic of Tajikistan have signed the protocol (agreement) on the establishment of the Central Asian Coordination Center on Disaster Response and Risk Reduction. This centre will undertake measures on regional scale to enhance disaster preparedness, response and risk reduction activities of the CA countries before, during and after major disasters and emergency situations. The Centre will be the key point of coordination and collaboration of the CA governments on disaster response and risk reduction, as well as on humanitarian assistance interventions when major disaster occur in the region, and the trans-boundary areas in particular.

**The Disaster Preparedness Programme of the Humanitarian Aid Department of the European Commission in Kyrgyzstan (DIPECHO)**

DIPECHO started the implementation of its Disaster Preparedness Action Plans in the Central Asia since April 2003. Since then four DIPECHO plans were implemented in the Central Asia for the total amount of EUR 15 million. Currently Fifth DIPECHO Action Plan is being implemented in the amount of EUR 7 million, this Action Plan was commenced in July 2008 and shall be completed within 18 months. 16 partner organizations are involved in the Action Plan implementation[54].

DIPECHO programme for Disaster Risk Reduction and Preparedness of the European Commission, Humanitarian Aid Department (DG ECHO), was launched in 1996 by the European Commission to strengthen the capacity of communities exposed to risks in their preparedness to being protected from

[54] Disaster Risk Reduction at the Local Level: Successful Experience of DIPECHO Partners in Kyrgyzstan, Publication for DIPECHO Second Regional Consultative Conference, October 2009, Kyrgyzstan, UNDP, IOM, RCS KR, ACTED, Save the Children Federation, "Mehr-Shavkat" Public Foundation, and other DIPECHO partners

disasters. Since the inception of the Programme in 1996 the amount of funds invested in the preparedness to disasters reached more than € 180 million.

The projects financed by DIPECHO programme include simple and inexpensive measures in the area of disaster preparedness, very often these measures are implemented by the communities. The DIPECHO projects are mainly concentrated on various trainings, capacity and awareness building, creation and improvement of early warning systems on the local level as well as planning of activities in cases of emergency. Like other types of aid provided by the European Commission, Humanitarian Aid Department (DG ECHO), DIPECHO projects are implemented by International NGOs, Red Cross Families and UN Agencies in close cooperation with local authorities. The DIPECHO programme which was developed for the support of community based activities and initiatives, may also act as an integral component of municipal, regional as well as national disaster reduction strategies.

**The United Nations Development Assistance Framework**

In 2004, the United Nations Country Team and the Government of the Kyrgyz Republic signed the United Nations Development Assistance Framework for 2005-2010 (UNDAF). The main goal of the UNDAF is to facilitate proper implementation of global humanitarian and development targets, like the Millennium Development Goals (MDGs), as well as the national priorities outlined in the strategic country documents (National Poverty Reduction Strategy - NPRS, Country Development Strategy - CDS). The UNDAF has translated the key dimensions of these documents into a common operational framework for development activities upon which the United Nations Agencies, Funds and Programmes formulated their actions for the period 2005-2010.

The needs and expectations for sustainable human development in the Kyrgyz Republic and achievement of the MDGs go well beyond the means of any individual Agency. They call for multidimensional partnerships with the Government, between United Nations Agencies, and with other development partners, including civil society. Thus, the UN in the Kyrgyz Republic pursues a partnership strategy that revolves around joint dialogue and creating a high-quality civic environment for civil society organizations. Through policy dialogue, the United Nations System facilitates comprehensive approach to humanitarian aid coordination, linking such coordination to ongoing institutional, legal and administrative reforms.

In each UNDAF priority area (i-poverty alleviation and social services, ii-democratic governance, iii-HIV/AIDS), the United Nations System considers the importance of Central Asian regional cooperation based on the fact that local challenges in the Kyrgyz Republic, such as unrest, poverty and drug trafficking in the trans-border areas cannot be resolved without close cooperation with the neighbouring countries. Collective and comprehensive support of the donors is the key to establishment of efficient border management mechanisms and facilitation of cross-border cooperation.

In 2010, the next UNDAF document will be developed in a joint efforts for the period of 2011-2015.

# Conclusion

The Republic of Kyrgyzstan demonstrates overall commitment to the implementation of the Hyogo Framework for Action and considers disaster risk reduction as a national priority. The Government supports the initiatives of donor agencies and their projects, and closely cooperates with the international assistance programs. The Government is working hard to ensure the well-being and safety of the country's population although these efforts are sometimes hampered by lack of financial capacity and expertise.

Following is a brief overview of the key achievements, as well as constraints and opportunities of the Kyrgyz Republic:

Kyrgyzstan has insufficient resources – human, financial, technical, and administrative – at the disposal of relevant agencies for the implementation of the national and institutional plans and actions aimed at enhancing disaster preparedness, awareness, risk assessments, reduction of underlying risk factors, enforcing the minimal environmental, demographic, developmental and other norms and standards.

The lack of resources also reflects in the inadequate education, special training, management training, and access to information and exchanges among the relevant decision-making and technical staff working in DRR-related areas. Specifically, the skills required for successful formulation of project ideas and concepts, fundraising, project negotiation, implementation and reporting are lacking in the appropriate government structures.

Shortage of resources also affects the efficiency of existing mechanisms and lack of ability to create new systems of monitoring and early warning at potentially dangerous facilities, especially in the highly hazardous nuclear mine tailings, waste dumps and toxic substance storages. The numerous high-altitude glacial lakes prone to potential outburst, multiple high-risk zones of potential land/mudslides pose a considerable threat to the well-being of populations and are in urgent need of assessment, for consecutive mapping, inventory and mitigation measures. The lack of resources also reflects in the inadequate funding of DRR in the annual national budget; besides, the reserve funds and the other resources are constantly spent on disaster mitigation and response activities, due to the many recurring disasters.

An important factor for effective DRR is the strong implementation discipline in the government structures. Although Kyrgyzstan has the set of legislative and regulatory acts in disaster mitigation and response, and has established the required bodies and structures, the implementation of these laws and the functioning of these structures need further improvement. For example, the Inter-agency Commission for Emergency Response that consists of line ministries and government agencies needs to play a ***more proactive role*** in the strategic areas on disaster risk reduction, prevention and preparedness as opposed to full accentuation of its resources to response measures. However, positive initiatives and trends on DRR should be noted as well, including the adoption of the new and most up-to-date Law on "Civil Protection", and creation of Scientific-Technical Council under the Inter-agency Commission for Emergency Mitigation and Response.

The Republic of Kyrgyzstan possesses many opportunities for promoting the DRR as a priority in its development and in the range of current activities. The country has supported and signed many regional and international treaties and agreements, including the ***Hyogo Framework for Action in 2005,*** had established the structures and systems to address disaster mitigation and response. Moreover, there is a clear commitment of the Government on the establishment of the ***National Platform for DRR,*** which was expressed both by the Ministry of Emergencies and by the Government of the Kyrgyz Republic.

Hopefully, the adoption of the National Strategy for Disaster Management and establishment of the National Platform for DRR will provide the required momentum for activating the systems and triggering the mechanisms that will start generating decisions, monitor their implementation and effect, and will apply the DRR strategy and the related acts creatively and efficiently. Another great opportunity is that the Government of Kyrgyzstan expresses strong commitment to the principles of the DRR, outlined in the Hyogo Framework for Action. The Government is considering a number of issues related to DRR, including the mode of composition and functioning of the National Platform for DRR with recommendations of the UNISDR.

# Annexes

## Annex 1. DRR related legislation[55]

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|---|---|---|
| The Law of the Kyrgyz Republic "On Individual housing construction in the Kyrgyz Republic" | from 21/12/1991 | under No.689-XII |
| The Law of the Kyrgyz Republic "On urban construction legislation principles in the Kyrgyz Republic" | from 21/12/1991 | under No.687-XII |
| The Law of the Kyrgyz Republic "On urban construction and architecture in the Kyrgyz Republic" | from 11/01/1994 | under No.1372-XII |
| The Law of the Kyrgyz Republic "On Water" | from 14/01/1994 | under No.1422-XII |
| The Law of the Kyrgyz Republic "On phyto-sanitary control" | from 27/06/1996 | under No.26 |
| The Law of the Kyrgyz Republic "On Electric energy" | from 28/01/1997 | under No.8 |
| The Law of the Kyrgyz Republic "On damage compensation on the consequences of Toktogul hydro-power plant and water reservoir construction on the territory of Toktogul district, Jalal-Abad Region" | from 12/09/1998 | under No.122 |
| The Decree of the President of the Kyrgyz Republic "On introductory concepts of private property of land in the Kyrgyz Republic" | from 13/10/1998 | under No.УП-310 |
| The Decree of the Government of the Kyrgyz Republic "On Monitoring of agricultural lands" | from 01/03/1999 | under No.115 |
| The Law of the Kyrgyz Republic "On Drinkable Water" | from 25/03/1999 | under No.33 |
| The Land Code of the Kyrgyz Republic | from 02/06/1999 | under No.45 |
| The Law of the Kyrgyz Republic "On putting in force the land code of the Kyrgyz Republic" | from 02/06/1999 | under No.46 |
| The Law of the Kyrgyz Republic "On Biosphere territories of the Kyrgyz Republic" | from 09/06/1999 | under No.48 |
| The Law of the Kyrgyz Republic "On atmosphere protection" | from 12/06/1999 | under No.51 |
| The Law of the Kyrgyz Republic "On Environment Protection" | from 16/06/1999 | under No.53 |
| The Code on Forestry of the Kyrgyz Republic | from 08/07/1999 | under No.66 |
| The Decree of the Government of the Kyrgyz Republic "On endorsement of regulation on land cadastre management in the Kyrgyz Republic" | from 02/12/1999 | under No.659 |

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http://www.base.spinform.ru/klview.fwx?sortord=vdok&startpage=3&razdel=6&klsid=_000000097&qt=0&dtype=0&year=0

| | | |
|---|---|---|
| The Law of the Kyrgyz Republic “On agricultural land management” | from 11/01/2001 | under No.4 |
| The Law of the Kyrgyz Republic “On intergovernmental management of water infrastructure facilities, water resources and water management structures in the Kyrgyz Republic” | from 23/07/2001 | under No.76 |
| The Law of the Kyrgyz Republic “On Industrial production waste management and utilization” | from 13/11/2001 | under No.89 |
| The Decree of the Government of the Kyrgyz Republic “On endorsement of regulation on national land allocation commission” | from 16/01/2002 | under No.29 |
| The Law of the Kyrgyz Republic “On payment rates for environment pollution (emissions, toxic wastes, and waste product storages)” | from 10/03/2002 | under No.32 |
| The Law of the Kyrgyz Republic “On Geodesy and cartography” | from 20/03/2002 | under No.43 |
| The Decree of the Government of the Kyrgyz Republic “On endorsement of standard rules for maintenance and utilzation of residential houses and house land plots in the Kyrgyz Republic” | from 08/04/2003 | under No.191 |
| The Decree of the Government of the Kyrgyz Republic “On endorsement of regulation on cadastre assessment of land plots of available land resources in the Kyrgyz Republic” | from 02/09/2004 | under No.660 |
| The Decree of the Government of the Kyrgyz Republic “On material liability for damages caused by land degradation” | from 07/09/2004 | under No.668 |
| Water Code of the Kyrgyz Republic | from 12/01/2005 | under No.8 |
| The Decree of the Government of the Kyrgyz Republic “On endorsement of regulation on land plot allocation procedures for individual housing construction” | from 06/05/2005 | under No.177 |
| The Decree of the Government of the Kyrgyz Republic “On endorsement of state programme on industrial production waste utilization and consumption, regulation on state cadastre for wastes and certification of dangerous wastes” | from 19/08/2005 | under No.389 |
| The Decree of the Government of the Kyrgyz Republic “On on endorsement of regulation on land plot allocation for subsurface use” | from 12/04/2006 | under No.261 |
| The Law of the Kyrgyz Republic “On Hydrometeorology activities in the Kyrgyz Republic” | from 08/08/2006 | under No.154 |
| The Law of the Kyrgyz Republic “On ozone layer protection” | from 18/12/2006 | under No.206 |
| The Decree of the Government of the Kyrgyz Republic “On identification of safety measures in the area of veterinary, phyto-sanitary control, epidemiology, sanitation and ecology” | from 30/12/2006 | under No.901 |
| The Law of the Kyrgyz Republic “On State control and policy in the area of greenhouse gas emissions and occlusion” | from 25/05/2007 | under No.71 |

| | | |
|---|---|---|
| The Decree of the President of the Kyrgyz Republic “On concepts of ecological safety in the Kyrgyz Republic” | from 23/11/2007 | under No.506 |
| The Decree of the Government of the Kyrgyz Republic “On conducting of national inventory of forests in the Kyrgyz Republic” | from 11/04/2008 | under No.145 |
| The Decree of the Government of the Kyrgyz Republic “On endorsement of regulation on procedures of granting certificates for engineering, construction, and other alterations of property, and procedures of commissioning the constructed properties in the Kyrgyz Republic” | from 30/05/2008 | under No.252 |
| The Decree of the Government of the Kyrgyz Republic “On cessation of use of ozone depleting substances” | from 11/07/2008 | under No.374 |
| The Law of the Kyrgyz Republic “On Pasture Lands” | from 26/01/2009 | under No.30 |
| The Decree of the Government of the Kyrgyz Republic “On endorsement of regulation on classification of construction facilities characteristics and procedures of conducting state construction and architectural control over building projects, reconstruction activities and other alterations of properties in the Kyrgyz Republic” | from 10/02/2009 | under No.95 |
| The Law of the Kyrgyz Republic “General technical regulations to ensure ecological safety in the Kyrgyz Republic” | from 08/05/2009 | under No.151 |
| The Law of the Kyrgyz Republic “On setting of moratorium on transformation of irrigated plough-lands into other categories land and types of property” | from 31/07/2009 | under No.257 |
| The Decree of the Government of the Kyrgyz Republic “On endorsement of regulation on procedures of clearance of slum and dangerous structures on the populated territories of the Kyrgyz Republic” | from 13/08/2009 | under No.518 |
| The Decree of the Government of the Kyrgyz Republic “On endorsement of standard rules of construction, land use and development of residential areas in the Kyrgyz Republic” | from 19/09/2009 | under No.597 |
| The Law of the Kyrgyz Republic “Technical regulation on safety of construction materials, building products and structures” | from 29/01/2010 | under No.18 |
| The Decree of the Government of the Kyrgyz Republic “On state control inspectorate for industrial safety and mining under the Ministry of natural resources of the Kyrgyz Republic” | from 19/02/2010 | under No.108 |

# Annex 2. List of institutions involved in disaster management[56]

| Donor organizations | |
|---|---|
| ADB – Asian Development Bank | 52-54 Orozbekova st., Bishkek; tel.: 900445; 627343 fax: 627344 |
| EU – European Union, Delegation of the European Commission to the Kyrgyz Republic | 236 Abdymomunova st., Bishkek, 720033; tel.: 901260; 0772.514944 fax: 901266 |
| Aga Khan Development Network | 80 Tynystanova st. / Moskovskaya st., Bishkek; tel.: 696031 fax: 696029 |
| Public Foundation MSDSP KG Kyrgyzstan Mountain Societies Development Support Programme (An initiative of the Aga Khan Foundation) | 41, Usenbaeva str., Bishkek Tel.: 388022, 388249 |
| DFID – Department for International Development | 215 Manaschy Sagynbai st., Bishkek; tel.: 690232 fax.: 690231 |
| EBRD – European Bank for Reconstruction and Development | 26 Pereulok Geologicheskiy, Bishkek; tel.: 530015, 530016 (DRR) tel.: 530017 (RR) fax: 666284 |
| European Commission Directorate-General for Humanitarian Aid-ECHO Regional Office for the Central Asia | Dushanbe, Tajikistan, 734025 37/1 Bokhtar street VEFA Business Centre, 3d floor tel.: (+992 37) 221 60 83/221 78 76/223 16 15 satphone: +873761351349; fax: 00.992372.231615; +873761351351 |
| GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit) | 150, Panfilova str., Bishkek tel.: 909131, 909070 fax: 906550; |
| JICA – Japan International Cooperation Agency | 115, Chokmorova str., Bishkek, 720001; tel.: 900270 ~4; fax: 900279; |
| OSCE – Organization for Security and Cooperation in Europe | 139 Toktogula st., Bishkek; tel.: 665015, 664126, 664180 fax: 663169 |
| SCO – Swiss Cooperation Office | 144 Panfilova str., Bishkek; tel.: 30 10 36 fax: 30 10 31 |
| USAID – United States Agency for International Development | 171 Mira av. (U.S. Embassy premises) Bishkek; tel.: 551241; fax: 551264; 0515.777203 |
| State Department of the USA – Humanitarian Programmes Office of the Coordinator for US Assistance to Europe and Eurasia | |
| USAID office of the US Office for Disaster Assistance (OFDA) | |
| **International organizations and NGOs** | |
| ACTED – Agency for Technical Cooperation and Development | 74 K.Datka st., Osh; tel.: 03222.28759, 56837 |
| Counterpart International Inc., Branch Office in Kyrgyz Republic | 204 Abdrahmanova st., Bishkek; tel.: 662104, 662188, 664636; fax: 620830 |
| Danish Church Aid, Regional Office (DaChurchAid) Central Asia | 402 Frunze st., Bishkek, Kyrgyzstan, 720033 tel.: +(996.312) 665762, 665926 mob.: +(996) 550.701370 mob.: +7.812.9531491 (Russian mobile) |
| Every Child, UK | 107, Kievskaya str., romm #401, 4th floor, Bishkek, tel.: 666142, 620954 fax:; 666142 |
| German Agro Action, Osh | 73 Masaliev av., r.11, Osh; tel.: 03222.55952, 59252 fax: 03222.55923 |
| Habitat for Humanity International, Kyrgyzstan | 720044 Bishkek 184, Moskovskaya str., apt. 2 Kyrgyzstan t. 312 54 15 99, 460506, 651003, 317973, f. 312541599 |
| HelpAge International | 204, Abdrahmanova str., 4th floor, Bishkek, 720070; tel.: 664636 fax. 620724 |
| ICG – International Crisis Group | 129b Ahunbaeva str., apt.4; tel.: 901027 mob.: 0772.320369 |
| Mercy Corps | 10 Togolok Moldo, Bishkek; tel.: 666957, 666958, 662996 fax: 662455, 662991; |

[56] Provided by NLRC and UNDP, (as of date: 10 July 2009)

| | |
|---|---|
| MSF – ”Medicins sans Frontieres”, Switzerland | 17/1 Koyonkozova st., Bishkek ; tel. : 908471, 0773116022; fax: 908472 |
| Pragma Corporation | 105 Chokmorova st., Bishkek, 720040, tel.: 665912, 663500, 627992 fax: 665882; 690639 |
| Zdrav Plus | 1 Togolok Moldo, Bishkek, 720040 tel: 663816, 663708, 663509 fax: 661024 |
| “Save the Children Federation, Inc.”, Public Fund | 3/8, Baytik Baatyr str., Bishkek; tel.: 930416 |
| **Movements of Red Crescent and Red Cross Societies** | |
| RCSK – Red Crescent Society of Kyrgyzstan | 10 Erkindik blvd., Bishkek, 720040; tel.: 624857, 624883; mob.: 0555.351135 fax: 662181 |
| ICRC – International Committee of the Red Cross, Mission in Bishkek | 131 Bokonbaeva str., Bishkek, 720040; tel.: 627602 ~04 fax: 627605 |
| IFRC – International Federation of Red Cross and Red Crescent Societies, Regional Representation for Central Asia | 86 Kunaev str., Almaty, Kazakhstan, 050010; tel.: 007 727 2918063, 2918838, 2914167 fax: 007 727 2914167 |
| German Red Cross | 10 Erkindik blvd., Bishkek, 720040 |
| Netherlands Red Cross | 10 Erkindik blvd., Bishkek, 720040; tel.: 667043; fax: 667042 |
| Swiss Red Cross | Bishkek Sydykov Str., 187 tel: 906310, 906840 fax: 906330 |
| **National NGOs** | |
| ADRA International, Adventist Development and Relief Agency in Kyrgyzstan | 167 Usenbaeva / Kurenkeeva str.; tel.: 665319, 666558, 666570, 666564 fax: 660125 |
| «Akel Consult», Public Foundation | 1A Taigaraeva st., Jalalabat; tel.: 03722.72797; mob.: 0773.827527, 0555.602807 |
| «Alternativa», Public Organization | 44 Salieva str., Osh; tel.: 03222.31550, cell.: 0773.265773 |
| «Altyn Kazyk», Public Foundation | 48 Stroiteley st., Jalalabat; mob.: 0777.159409, |
| Association of Civil Society Support Centres | 204 Abdrahmanova st., 4F, Bishkek, 720040; tel.: 682836, 682841 |
| «Bingo», Public Association | 36 Beishenalieva str., Kerben, Aksy raion, Jalalabat oblast, 720600; tel.: 03742.50148, mob.: 0773009303, 0550009303 |
| “CAMP Ala Too” (Central Asian Mountain Partnership), Public Foundation | 36 Oshskaya str., Bishkek; tel.: 542346, 909703, 909704; mob.: 0772.531047 fax: 540573 |
| Coordination Civil Society NGO Support Centre (ЦПГО, Jalalabat) | 50-2 Toktogula str., Jalalabat; tel.: 03722.20945; 03722.20762; Fax: 03722.24352 |
| DCCA – Development and Cooperation in the Central Asia, Public Foundation | 144 Toktogula, apt.1; tel.: 665840; 666268 |
| “DIA” – (“Demilgeluu Ishker Ayaldar”), Public Foundation | 316 Lenin str., Osh; tel., fax: 03222.56473 |
| “EcoFond”, Public Foundation | 77/5 Timura Frunze st., Bishkek tel.: 555180, 695378 |
| “Jalalabat Leader Women”, Public Foundation | 7/11, Toktogul str., Jalalabat Tel. 03722 55084; 0772.273196 |
| «Mehr Shavkat», Public Foundation | 1 Toshmatova str., Aravan, Osh oblast; tel.: 03231.22774 fax: 03231.26265 |
| “MKM Spas” Public Foundation, Naryn | 22-5 Razzakova st., Naryn; tel.: 03522.50360 |
| Public Foundation “Ecological development” Information Center on Aarhus Convention, Osh | 287 K.Datka st., Osh; tel.: 03222.24112, 21833 (fax) |
| Resource Centre for Support of Elderly, Public Organization | 50 Razakova Str.., Bishkek; tel.: 661196 |
| «Shoola», Public Organization | Bokonbaevo village, Ton raion, Issykul oblast, 722450; tel.: 03947.91602, 91212 cell.: 0775.979258, 0555.928111; |
| «Shoola-Kol», Public Organization | 56 Turusbekova str., apt.8, Bokonbaevo village, Ton raion; Issykul oblast, 722450; tel.: 03947.91738, 91027 fax: 03947.91027 |
| Hospitals Association of the Kyrgyz Republic | 144 a, Bokombaeva str., 3rd floor, Bishkek, 720040, Kyrgyz Republic Tel. (312) 66 21 85, fax. (312) 66 10 24 |

| United Nations Country Team | |
|---|---|
| FAO of the UN (Food and Agriculture Organization of the UN) | 96a Kievskaya st., r.305, Bishkek; tel.: 623632, 623716; |
| IOM – International Organization for Migration | 245 Chui av., Bishkek, 720001; tel.: 627936, -7, -8, -9 fax: 627940; |
| IRIN of the UN OCHA (Investor Relations Information Network) IRIN News, IWPR | |
| UNAIDS – Joint UN Programme for HIV/AIDS | 160 Chui av., Bishkek, 720040; tel.: 611232; fax: 611217 |
| UN DSS – (UN Department of Safety and Security) | 160 Chui av., Bishkek, 720040; tel.: 611205, 611213; fax: 611217 |
| UNFPA – United Nations Population Fund | 160 Chui av. Bishkek, 720040; tel.: 611202, 611204 fax: 611204; |
| UNHCR – UN High Commissioner for Refugees | 160 Chui av. Bishkek, 720040; tel.: 611264, -5, -6, -7; fax: 611271 |
| UNICEF – United Nations Children's Fund | 160 Chui av., Bishkek, 720040; United Nations Children's Fund tel.: 611224, 5, 6, 7 fax: 611191; |
| UN OCHA – UN Office for Coordination of Humanitarian Affairs, Regional Office for the Central Asia | 67 Tole Bi str. , Almaty, Kazakhstan, 480091; tel.: 00.7727.2582643; mob.: 00.77777.809071 fax.: 00.7727.2581779 mob.: 0777.240315 (in KR) |
| UN OHCHR – UN Office of High Commissioner for Human Rights | 160 Chui av., Bishkek, 720040; tel.: 611213, 611233 fax: 611217 |
| UNV – United Nations Volunteers | 160 Chui av., Bishkek, 720040; tel.: 611205, 611213; fax: 611217, -8 |
| WHO – World Health Organization | 160 Chui av., Bishkek, 720040; tel.: 612677 ~80, 612600, 611211; fax: 612681 |
| WB – World Bank | 214 Moskovskaya st., Bishkek; tel.: 610650, 610157, 0775.581115 fax: 610356, 610481 |
| United Nations World Food Programme | 121/1, Shopokova str., Business Center "Red Center", office 516, 518 tel: 306 106 fax: 306 105 |
| UN/UNDP | 160 Chui av., Bishkek, 720040; tel.: 611213, 611215 fax: 611217, 611218 |

Total: - Donor organizations – 14 International organizations and NGOs – 13 Red Cross and Red Crescent Mov. – 6 National NGOs – 19 UN CT – 15

## Annex 3. Ministries and governmental bodies of the Kyrgyz Republic[57]

| Ministries | |
|---|---|
| State Ministry of Foreign Affairs | 57, Erkindik Ave., 720040, Bishkek city<br>http://www.mfa.kg<br>gendep@mfa.gov.kg |
| Ministry of Defence | 26, Logvinenko Str., 720001, Bishkek city<br>http://www.mil.kg<br>ud@bishkek.gov.kg |
| Ministry of Internal Affairs | 469, Frunze Str., 720040, Bishkek city<br>http://www.mvd.kg/<br>mail@mvd.bishkek.gov.kg |
| Ministry of Justice | 32, M.Gandi Str., 720010, г.Бишкек<br>http://www.minjust.gov.kg<br>minjust@bishkek.gov.kg |
| Ministry of Finance | 58, Erkindik Ave., 720040, Bishkek city<br>http://www.minfin.kg<br>minfin@mf.gov.kg |
| Ministry of Economic Regulation | 106, Chui Ave., 720002, Bishkek city<br>http://www.mert.kg<br>mert_kg@mail.ru |
| Ministry of Agriculture | 96 "A", Kievskaya Str., 720040, Bishkek city<br>http://www.agroprod.kg<br>agroprod@elcat.kg |
| Ministry of Transport and Infrastructure | 42, Isanova Str., 720017, Bishkek city<br>http://www.mtk.kg<br>mtk@mtk.gov.kg |
| Ministry of Emergency Situations | 11, Muminova Str., 723500, г. Ош<br>http://www.mes.kg<br>mecd@elcat.kg |
| Ministry of Education and Science | 257, Tynystanova Str., 720040, Bishkek city<br>http://www.minedu.kg<br>monk@monk.bishkek.gov.kg |
| Ministry of Healthcare | 148, Moskovskaya Str., 720040, Bishkek city<br>http://www.med.kg<br>mz@med.kg |
| Ministry of Labour, Employment and Migration | 106, Chui Ave., 720040, Bishkek city<br>http://www.mz.kg<br>mz@mz.kg |
| Ministry of Energy | 119, Akhunbaeva Str., 720055, Bishkek city<br>http://www.mpe.gov.kg |
| Ministry of State Property | 151, Moskovskaya Str., 720017, Bishkek city<br>http://www.spf.gov.kg<br>goskomitet@ktnet.kg |
| Ministry of Natural Resources | 2, Erkindik Ave., 720026, Bishkek city<br>http://www.geo.gov.kg<br>mail@geoagency.bishkek.gov.kg |
| **State Agencies** | |
| State Agency for antimonopoly regulation | 119, Akhunbaeva Str., 720055, Bishkek city<br>http://www.antimonopolia.kg<br>gkap@elkat.kg |
| State Agency for Environment Protection and Forest Management | 228, Toktogul Str., 720001, Bishkek city<br>http://www.nature.kg/index.php<br>demos@intranet.kg |
| State Agency for Social Welfare Services | 215, Tynystanova Str., 720040, Bishkek city<br>http://www.mlsp.kg<br>press@mlsp.kg |
| State Agency for Communication | 76, Baitik-Batyr Str., 720005, Bishkek city |
| State Agency for Physical Culture and Sports | 17, Togolok-Moldo Str., 720033, Bishkek city<br>http://www.sport.gov.kg<br>goskomsport05@mail.ru |

[57] http://www.government.gov.kg/index.php?option=com_content&task=view&id=11&Itemid=38

| | |
|---|---|
| State Agency for Architecture and Construction | 28, Manas Str., 720001, Bishkek city<br>http://www.gosstroy.gov.kg<br>mail@gosstroy.bishkek.gov.kg |
| State Agency for Culture | 78, Pushkina Str., 720040, Bishkek city<br>http://www.minculture.gov.kg<br>mincultkr@mail.ru |
| **State Services** | |
| State Service for Penalty Administration | 106, Ibraimova Str., 720021, Bishkek city |
| State Frontier Service | 720040, Bishkek city, ул. Медерова, 163 |
| State Tax Service | 219, Chui Ave., 720001, Bishkek city<br>http://www.sti.gov.kg<br>stimf@sti.gov.kg |
| State Customs Service | 4a Baitik-Batyr Str., 720020, Bishkek city<br>http://www.customs.gov.kg<br>customs@customs.gov.kg |
| State Service for Monitoring and Regulation of the Financial Market | 114, Chui Ave., 720040, Bishkek city<br>http://www.fsa.kg<br>fsa@fsa.kg |
| State Registry Service | 190, Moskovskaya Str., 720010, Bishkek city |
| **Funds** | |
| State Material Reserves Fund | 190, Moskovskaya Str., 720010, г.Бишкек<br>http://www.goszakupki.gov.kg<br>gosagency@totel.kg |
| Mandatory Medical Insurance Fund | 122, Chui Ave., 720040, Bishkek city |

## Annex 4 List of persons met who provided information for this report

| Name, Position, Organization/Agency | Email | Telephone | Post-address |
|---|---|---|---|
| **Achim Merlo** (Mr.)<br>UNV Programme Officer, UNV programme in KR | achim.merlo@undp.org<br>t achim.merlo@undp.org<br>www.unv.org.kg | +996 312 61-12-11(ex.162)<br>+996 312 61-12-13<br>+996 312 61-12-17/18(fax.) | UN House160, Chui Ave.,720040, Bishkek |
| **Aida Gareeva** (Ms.)<br>Project Coordinator, National Public Association "Camp Ala-Too" | aida@camp.elcat.kg | +996 312 90-97-09<br>+996 312 90-97-04 | 36, Oshskaya Str., 720035, Bishkek |
| **Aigul Omorova** (Ms.)<br>Senior Officer of the International Department, MoES Bishkek | aigulya_707@mail.ru | +996 312 61-47-34<br>+996 312 54-11-77 | 2/1, Toktonaliev Str., 720055 Bishkek |
| **Akylbek Chymyrov** (Mr.)<br>Ph.D., Docent, Head of Department, Kyrgyz State University of Transport, Architechture and Construction | akylbek2005@yahoo.com<br>chymyrov@gmail.com<br>www.ksucta.kg | +996 312 54-56-02<br>+996 312 54-51-36(fax.) | 34"b", Maldybajeva Str., 720020, Bishkek |
| **Aleksey Nikitin** (Mr.)<br>Regional Project Manager, Netherlands Red Cross, DIPECHO Project | nrcs_ast@elcat.kg | +996 312 66-70-42/43 | 10, Erkindik Ave., 720040, Bishkek |
| **Bakytbek Nurkulov** (Mr.)<br>Deputy Chairman, State Agency on Architecture and Construction, Department of Civil Engineering & Construction | ujgs@mail.ru<br>ujgs@netmail.ru | +996 312 61-36-97<br>+996 312 61-34-52<br>+996 312 61-49-50 | 28, Manas Ave., 720001 Bishkek |
| **Bermet Moldobaeva** (Ms.)<br>Sub-Regional Programme Manager, International Organization for Migration | bmoldobaeva@iom.int<br>www.iom.int<br>www.iom.kz<br>www.iom.elcat.kg | +996 312 61-24-56/57/58/59<br>+996 312 61-24-60(fax.) | 6, Ryskulova Str., Bishkek |
| **Chinara Kumenova** (Ms.)<br>Education Officer, UNICEF Kyrgyzstan | ckumenova@unicef.org | +996312 61-12-11 | UN House, 160, Chui Ave.,720040, Bishkek |
| **Daniyar Ibragimov** (Mr.)<br>Programme Officer, DRR Focal Point, UNDP Kyrgyzstan | daniar.ibragimov@undp.org | +996 312 61-12-11<br>+996 312 31-63-11 | UN House, 160, Chui Ave.,720040, Bishkek |
| **Emil Omuraliev** (Mr.)<br>National Professional Officer on DRR, World Health Organization | eom@euro.who.int | +996 312 61-26-77/78/79<br>+996 312 61-12-11(ex.160)<br>+996 312 61-26-81(fax.) | UN House160, Chui Ave.,720040, Bishkek |
| **Kanatbek Abdrakhmatov** (Mr.)<br>Director, Doctor of Sciences, Institute of Seismology | kanab53@rambler.ru | +996 312 52-38-26<br>+996 312 52-38-26 | 52/1, Asanbay Str.,720060 Bishkek |
| **Kubat Jangaziev** (Mr.)<br>MoES Bishkek | kybat4@mail.ru<br>intercoop@mecd.bishkek.gov.kg | | 2/1, Toktonaliev Str., 720055 Bishkek |
| **Lira Joldubaeva** (Ms.)<br>Programme Coordinator, Central Asian Institute of Applied Geosciences | l.joldubaeva@caiag.kg | +996 312 55-54-54 | 73/2 Timur Frunze Street,Bishkek |
| **Nurgul Smankulova** (Ms.)<br>Programme Specialist, UNFPA Kyrgyzstan | smankulova@unfpa.org.kg | +996 312 61-12-02<br>+996 312 61-12-11(ex.158)<br>+996 312 61-12-04<br>+996 312 93-76-68 | UN House, 160, Chui Ave.,720040, Bishkek |
| **Olga Shevchenko** (Ms.)<br>Programme Manager, UNDP Kyrgyzstan, Disaster Management Programme | osh@dm.undp.kg | +996 312 31-43-14(ex.102)<br>+996 312 31-42-99 | 1, Kerimbekova Str., 720017, Bishkek |
| **Sergei Erokhin** (Mr.)<br>Head of Engineering Geological Party, State Agency on Geology and Mineral Resources of the Kyrgyz Republic | erochin@list.ru | +996 312 90-98-42<br>+996 312 38-46-48<br>+996 312 30-05-06(fax.) | 10/97, Bokonbaeva Str., Bishkek |

| | | | |
|---|---|---|---|
| **Seyitbek Imanbekov** (Mr.)<br>Director, Candidate of Technical Sciences, Kyrgyz Research & Design Institute for Earthquake Resistant Construction (KNIIPS) | kniips@elcat.kg | +996 312 63-13-12<br>+996 312 44-92-53<br>+996 312 44-94-75 | 2, Cholponatinskaya Str., 720048 Bishkek |
| **Taalaibek Akmatbaev** (Mr.)<br>Leading Specialist, Bishkek Mayor's Office, Urban Development Department | t.akmatbaev@rambler.ru | +996 312 61-39-41 | |
| **Tatyana Chernikova** (Ms.)<br>Head of Hydrometeo Monitoring, Forecast and Information Department, State Agency of Hydrometeorology under MoES of KR | meteo@meteo.ktnet.kg | + 996 312 21 38 62<br>+996 312 31 47 45<br>+996 312 21 44 22(fax) | 1, Kerimbekova Str., 720017, Bishkek |
| **Tatyana Ten** (Ms.)<br>Coordination Specialist, UN Joint Project "Enhancing coordination for disaster response in the KR" | tt@dm.undp.kg | +996 312 31-43-14<br>+996 312 31-43-59<br>+996 312 31-42-68(ex.113) | 1, Kerimbekova Str., 720017, Bishkek |
| **Tursunay Usubaliyeva** (Ms.)<br>Programme Coordinator, Swiss Development Corporation Kyrgyzstan | tursunay.usubalieva@sdc.net<br>www.swisscoop.kg | +996 312 30-10-36<br>+996 312 30-10-31 | 144, Panfilov Str., 720040 Bishkek |
| **Ulan Kasymov** (Mr.)<br>Director , National Public Association "Camp Ala-Too" | ulan@camp.elcat.kg | +996 312 54-05-73<br>+996 312 54-23-46 | 36, Oshskaya Str., 720035, Bishkek |
| **Ulan Torobekov** (Mr.)<br>Head of International Department, State Agency of Hydrometeorology under MoES of KR | inter@meteo.ktnet.kg | +996 312 31-62-83<br>+996 312 31-46-63 | 1, Kerimbekova Str., 720017, Bishkek |
| **Valentina Sankova** (Ms.)<br>Senior Research Officer, Laboratory of Geological Engineering and Geoecology, Institute of Geology named after M.M. Adyshev, under the Academy of Sciences of the Kyrgyz Republic | afval@rambler.ru | +996 312 66-47-37/38<br>+996 312 66-26-80 | 30, Erkindik Ave, Bishkek |
| **Vladimir Makrousov** (Mr.)<br>Head of Department, Forecast and Monitoring Department of Chuy Oblast MoES KR | depmon@mail.ru | +996 312 31-28-58<br>+996 312 31-57-82 | 182, Bokonbaeva Str., Bishkek |