

Kyrgyzstan Risk Spotlight

for Common Country Analysis



GLOBAL INDICES		
Index	Data + comments	Sources + comments
INFORM Risk Index	3.1 Overall risk (medium risk country and is 99 out of 191) 2.9 Hazard exposure (rank 99 out of 191) 2.3 Vulnerability (rank 117 out of 191) 4.3 Lack of coping capacity (rank 92 out of 191)	Country Risk Profile Data set Methodology INFORM
INFORM Subnational Risk Index	Jalal-Abad, Osh and Naryn ranked as high disaster risk provinces	EU INFORM Subnational
World Risk Index	2.20 Overall risk (low) 0.22 Exposition (low) 22.0 Vulnerability (medium) 19.09 Susceptibility (medium) 10.76 Lack of coping capacities (medium) 51.87 Lack of adaptive capacities (high)	Full report Data set
Human Development Index	0.692 HDI (2021) Rank 118 (medium)	Country HDI Profile Data set
Multi-dimensional Poverty Index	0.001 (based on 2018 survey)	Full report Data set
Gender Inequality Index	0.370 (2021) Rank 87 out of 170	Data set
Global Health Security Index	42.4 (2021) Rank 140 out of 195	Full report Data set

1. BASIC RISK DATA

HAZARDS						
Type	Cluster	Specific	Risk Level	Datapoints - information		Sources

Meteorological and hydrological	Flood	Riverine flood MH0007	Low (2020)	Kyrgyzstan's vulnerability to heavy rains and river floods are a significant concern, particularly given the potential for increased severity and frequency due to climate change. The mountainous terrain and changing weather patterns can lead to rapid snowmelt and heavy rainfall, exacerbating flood risks. Medium confidence in an increase in heavy precipitation. The present hazard level may increase in the future due to the effects of climate change.	Think Hazard - Country Profile
	Flood	Coastal flood MH0004	No data	No data available	Think Hazard - Country Profile
	Mass movement (HM trigger)	Landslide MH0052	High	Rainfall patterns, terrain slope, geology, soil, land cover and (potentially) earthquakes that make localized landslides a frequent hazard phenomenon Climate change is likely to alter slope and bedrock stability through changes in precipitation and/or temperature. It is difficult to determine future locations and timing of large rock avalanches, as these depend on local geological conditions and other non-climatic factors	Think Hazard - Country Profile NASA Landslide Viewer Map UNEP GRID – Ecosystem approaches for disaster risk map
	Pressure Related	Cyclone MH0030	Very low	Less than 1% chance of potentially-damaging cyclone-strength winds in the next 10 years.	Think Hazard - Country Profile UNEP GRID – Ecosystem approaches for disaster risk map
	Marine	Tsunami MH0029	No data	No data available	Think Hazard - Country Profile
	Temperature Related	Heatwave MH0047	Medium	More than 25% chance that prolonged exposure to extreme heat, resulting in heat stress, will occur in the next 5 years. Continued emissions of greenhouse gases will cause further warming, and it is virtually certain that there will be more frequent hot temperature extremes over most land areas during the next 50 years (IPCC, 2013). Temperature increase in this area in the next 50 years will be slightly higher than the worldwide average.	Think Hazard - Country Profile ESRI map
	Precipitation Related	Drought MH0035	Medium	There is up to 20% chance droughts will occur in the next 10 years.	Think Hazard - Country Profile

				Model projections are inconsistent in their estimates of change in drought hazard, which influences water scarcity. The present hazard level may increase in the future due to climate change.	WRI Aqueduct Water Risk Atlas
Geohazard	Volcanogenic	Ash/Tephra Fall (Physical and Chemical) GH0010 Debris Flow/Lahars /Floods GH0013 Volcanic Gases and Aerosols GH0016	No data	No data available	Think Hazard - Country Profile
Geohazard	Seismogenic	Earthquake GH0001	High	The major earthquakes were In 2008 M 6.6 - Nura74 fatalities; in 1992 M 7.5 - Toluk75 fatalities and in 1992 M 6.2 - Osh4 fatalities. More than 20% chance of potentially damaging earthquake shaking in the next 50 years. Seismic Hazard PGA (overall country value): no data	Think Hazard - Country Profile Global Seismic Hazard Map (GEM) Seismic Hazard country profile with map
Environmental	Forestry	Deforestation EN0009		In 2010, Kyrgyzstan had 578kha of tree cover, extending over 2.9% of its land area. In 2021, it lost 17.5ha of tree cover.	Global Forest Watch map
		Wildfire EN0013	High	Greater than 50% chance of encountering weather that could support a significant wildfire likely to result in both life and property loss Modelled projections of future climate identify a likely increase in the frequency of fire weather occurrence in this region, including an increase in temperature and greater variance in rainfall. In areas already affected by wildfire hazard, the fire season is likely to increase in duration, and include a greater number of days with weather that could support fire spread because of longer periods without rain during fire seasons. Climate projections indicate that there could also be an increase in the severity of fire.	Think Hazard - Country Profile Global Forest Watch map European Forest Fire Information System map
	Environmental degradation	Sea level rise EN0023	No data	No data available	WRI Resource Watch – Sea Level Rise
	Environmental degradation	Biodiversity loss EN0008	Low	0.71 proportion intact (2005)	WRI Resource Watch

Technological	Flood	Drain & Sewer Flooding TL0046	High	Potentially damaging and life-threatening urban floods are expected in the next 10 years Medium confidence in an increase in heavy precipitation. The present hazard level may increase in the future due to the effects of climate change.	Think Hazard - Country Profile
	Transportation accidents TL0052			Approx. 15,400 deaths per 100,000 in 2018 The country has a population of 5.96 million and 0.99 million vehicles in 2018	WHO Global Status Report on Road Safety 2018
	Chemical emergency		No data	No data available	
	Occupational hazards		No data	No data available	ILO Occupational Safety and Health Country Profile
Biological	Airborne diseases BI0016	Tuberculosis BI0064		105 incidence per 100,000 people in 2020	Tuberculosis incidence
		Measles BI0052		15.1 measles incidence in 2018	WHO MMR Elimination Country Profile WHO Health Systems in Action
		Chickenpox (Varicella) BI0057		No recent data available	
	Airborne diseases BI0016			Acute Upper or Lower Respiratory Tract Infection: No recent data available	
	Waterborne diseases BI0018	Diarrhea BI0028		No recent data available	
	Sexually Transmitted Diseases BI0020	HIV and AIDS BI0032		STIs remain a huge concern for public health in Kyrgyzstan. The most common STIs such as syphilis and gonorrhea demonstrate a trend towards sharp fluctuations in the incidence in different regions due to unreliable data. However in some regions such as Jalal-Abad province, there is a rising incidence rate of 9.0 per 100 000 population in 2023. These infections increase the risk of HIV transmission and require enhanced infection prevention measures, including increased access to testing, treatment and educational programs for the population. The country has concentrated HIV epidemic, with 0.2% prevalence rate in the general population in 2023, with prevalence among key population	Health information Center and AIDC center stat data 2023

			groups (KPG), such as people who inject drugs (PWID), men who have sex with men (MSM), sex workers (SW), and prison inmates. In spite of this low prevalence rate, the epidemic continues to develop. Within the past 20 years (from 2003 to 2023), the number of HIV cases in the country has increased by 31 times, from 405 cases to 12560. Cumulative prevalence of registered HIV cases in 2023 has accounted for 176.9 per 100 thousand population. One of the enormous changes in the dynamics of the epidemic is the shift in the gender distribution of infected people. If in the early stages of the HIV epidemic in Kyrgyzstan it mainly affected men, now more and more cases are being registered in women. Thus, in the last 17 years, there has been a decrease in HIV registration among men by 29%, whereas among women, this rate has risen by the same 29%. This change began in 2012, and can be attributed to various socio-economic factors, as well as changes in lifestyle and behavior in society. Women are increasingly becoming more vulnerable to HIV infection due to inadequate protection during sexual intercourse and limited access to preventive services. (Source Health information Center and AIDC center stat data 2023)	
Vaccine-Preventable Diseases BI0022	Polio		No recent official publication	Polio
Emerging Infectious Diseases	COVID-19 BI0033		In Kyrgyzstan, from 3 January 2020 to 5:41pm CET, 10 November 2022, there have been 206,464 confirmed cases of COVID-19 with 2,991 deaths, reported to WHO. As of 30 October 2022, a total of 3,014,560 vaccine doses have been administered.	WHO
Emerging Infectious Diseases	Monkeypox BI0066		No recent data available	
Animal diseases			No recent data available	

EXPOSURE		
Datapoints - information		Sources + comments
Population + Communities	- Population: 6,694,200 (2021) - Pop. density (per km2): 34.6 (2021) - Population growth rate (average annual %): 1.7 (2021) - Urban population (% of total population): 37 (2021) - Urban population growth rate (average annual %): 2.5 (2015) - Life expectancy at birth (females/males, years): 75.4 / 67.2 (2021)	World Bank data UN data
Basic services + institutions + infrastructure	Urban Population Living in Slums, 2018 (Thousands): 189	UNHABITAT
Natural Resources	- Surface area (km2): 199, 949 - Threatened species (number): 51 (2021) - Forested area (% of land area): 6.7 (2021) - Important sites for terrestrial biodiversity protected (%): 23.6 (2021) - In 2010, Kyrgyzstan had 578kha of tree cover, extending over 2.9% of its land area. In 2021, it lost 17.5ha of tree cover.	UN data Global Forest Watch
Economy + livelihoods	- GDP (2021) - GDP (billion current US\$): 8.54 - growth rate (annual %, const. 2015 prices): 3.6 - per capita (current US\$): 1,276.2 - Economy (2021): - Agriculture (% of Gross Value Added): 13.4 - Industry (% of GVA): 30.7 - Services and other activity (% of GVA): 55.9	UN data World Bank data

VULNERABILITY		
Datapoints - information		Sources + comments
Communities + groups	Literacy rate, adult total (% of people ages 15 and above): 100 (2018) Disability: no data available Displacement: 120 internally displaced persons, new displacement associated with disasters (number of cases) in 2021 Refugee population by country or territory of asylum: 317 (2021) Armed forces personnel (% of total labor force): 0.8 (2019) Poverty headcount ratio at \$2.15 a day (2017 PPP) (% of population): 1.3 (2020) Working poverty rate (% employed working under \$1.99 per day): 0.3 (2021) Labor force participation rate, total (% of total population ages 15+): 90.9 (2021) - Labour force participation rated (female/male pop. %): 44.5 / 75.6 - Unemployment (% of labour force): 9.1 (2021) Prevalence of HIV, total (% of population ages 15-49): 0.2 (National Stat Data)	World Bank data UNFPA data ILO data UNESCO data UNICEF data

	• Adolescent birth rate per 1,000 girls aged 15-19, 2004-2020: 38 • Unintended pregnancy in women aged 15-49, 2023 : 170,000 source Source 2023, FP 2030 https://www.fp2030.org/kyrgyz-republic/ • Total fertility rate: 3.7 MICS data	
Robustness of basic services + institutions + infrastructure	• CPIA transparency, accountability, and corruption in the public sector rating (1=low to 6=high): 3 • Individuals using the Internet (% of population): 51 (2019) • Access to Electricity: 100% of population has access to electricity (2020) • Electric power consumption (kWh per capita): No data available • WASH: 70% has access to safely managed drinking water in 2020, 92% has access to safely- managed sanitation facilities, and 100% has basic handwashing facility with soap and water available at home	CPIA World Bank data WASH (UN Water)
Natural Resources	• Environmental Performance Index: Score 35.70 (Rank 126) • Deforestation: In 2010, Kyrgyzstan had 578kha of tree cover, extending over 2.9% of its land area. In 2021, it lost 17.5ha of tree cover. • Biodiversity: In 2015, the average terrestrial biodiversity intactness in Kyrgyzstan was 56%, indicating a medium level of biodiversity remaining relative to a baseline ecosystem with minimal human impact. • Water Ecosystem: 24% of water basins are experiencing rapid changes; 50% of renewable water is being withdrawn; 31% is degree of implementation of integrated water resources management • 19% of domestic wastewater safely treated • Monitoring of ambient water quality of water bodies: No data available	Environmental Performance Global Forest Watch UN Biodiversity UN Water
Economy	• GDP per Capita: 1,276.2 (2021) • World Economic Outlook: 15 Indicators • General Trade Performance: Service industry major contributor to GDP followed by industry and agriculture • World growth indicator: -3.91 • Country growth indicator: -2.04 • Inflation Rate: 13.5% • Ease of Doing Business Rank: 80 • Trading Across Borders Rank: 89	World Bank data IMF data World Bank – World Integrated Trade Solution (WITS) data

CLIMATE CHANGE		
Global Climate Risk Index (CRI)	• Rank 120 out of 180 countries • CRI score: 109.67	Germanwatch Full Report
ND-GAIN Country Index	• 52.2 ND-GAIN score, ranked 69 (low) • 0.350 vulnerability score, ranked 153 (low) • 0.394 readiness score, ranked 101 (low)	ND-GAIN
Past Trend 1971-2020	• Mean annual temperature: Increase • Maximum of daily max-temperature: Increase	WBG

	Precipitation: Little change, slight increase	
Mean Projections (CMIP6) 2020-2039	- Mean annual temperature: Increase - Maximum of daily max-temperature: Increase	WBG SSP2-4.5, Multi-model Ensemble, (Ref. Period: 1995-2014)
Children's Climate Risk Index (2021)	- Rank 94 out of 163 - Score 4.5/10 - Children exposed to ambient air pollution (PM2.5 >= 10 µg/m3) – 2.48 mln, - Children exposed to Ambient air pollution PM2.5 >= 25 µg/m3 – 1.56 mln - Children exposed to Riverine Flooding - 211,360 - Children exposed to Heatwaves – 2.09 mln - Children exposed to Lead pollution – 493,397 - Children exposed to Pesticide Pollution – 330,652 - Children exposed to Water Scarcity – 2.46 mln	UNICEF CCRI

2. CCA ANALYSIS SECTIONS

CCA section	Risk focus	Possible RiX Datasets
Economic Transformation Analysis	Structure of economy - Service industry major contributor to GDP followed by agriculture and industry - Top products exported include gold, precious metal ores, petroleum oils, dried kidney beans, and float glass - Top imported products are petroleum oils, other medicaments, transmission apparatus, cigarettes, and natural gas in gaseous forms - Agriculture employs 60% of the rural population. Key crops include wheat, corn, barley, potatoes and cotton.	WB- ADB Climate Risk Country Profile World Bank data IMF data World Bank – WorldIntegrated Trade Solution (WITS) data WFP Country Brief WB & GFDRR
	Economic risks from disaster and climate change - Risks in food security. Kyrgyz Republic has relied significantly on food imports since the turn of the 21st century, operating an annual food trade deficit of around \$150 million between 2008–2013. - Food and agriculture sector has suffered from significant damage from natural hazards. Analysis shows that the Kyrgyz Republic is hit by an average of 200 emergencies every year, resulting in approximately US\$30-35 million in damages and losses. - Since 2020, it has been observed that climate change has contributed to exacerbating a number of stressors, among which melting glaciers and abnormal dryness in 2022 and 2023, affecting regional competition for resources. - Kyrgyzstan's abundant water resources, comprising around 25% of Central Asia's total, are critical for	

	agriculture, industry, and hydropower generation. However, the inefficient and often poor-quality irrigation systems present significant challenges. • The limited exploitation of surface water runoff (only 12%-17%) means that a substantial portion of potential resources remains untapped, impacting agricultural productivity and economic development. The reliance on irrigation for agriculture is particularly pronounced, with 90% of surface water used for this purpose. • The deterioration of irrigation infrastructure contributes to both inefficient water use and increased flood risks, especially during heavy rainfall or rapid snowmelt. Poorly maintained systems can lead to runoff and mudslides, exacerbating flooding and causing damage to both agricultural lands and communities. • Climate change will influence food production via direct and indirect effects on crop growth processes. Direct effects include alterations to carbon dioxide availability, precipitation and temperatures. Indirect effects include through impacts on water resource availability and seasonality, soil organic matter transformation, soil erosion, changes in pest and disease profiles, the arrival of invasive species, and decline in arable areas due to desertification. • On a national level, the net optimality of temperatures for human life in the Kyrgyz Republic is projected to improve under all emissions pathways. This is expressed in heating and cooling 'degree days' (i.e., the cumulative number of degrees spent each day above or below the optimal temperature). • On average the Kyrgyz Republic will see a large reduction in the number of days in which heating is required, and small increase in the number of days during which cooling is required. It is possible that this trend will reduce the pressure on energy systems typically seen during winters in the Kyrgyz Republic. • Energy systems in the Kyrgyz Republic are already under pressure, with energy consumption higher than its neighbors, and growing rapidly. Residential energy consumption grew by 58% between 2007–2016.	
Social development & exclusion analysis	• Refugee population by country or territory of asylum is at 317 in 2021 • Poorer businesses are least able to afford space heating and cooling or building energy efficiency improvements. Poorer farmers and communities are least able to afford local water storage, irrigation infrastructure, and technologies for adaptation. • In the Kyrgyz Republic there is evidence that women and poorer rural dwellers are most likely to be affected by flash flooding and landslide as they spend	WB- ADB Climate Risk Country Profile World Bank data

	proportionately more time in exposed residential and a subsistence production area. • Historical evidence suggests a climate-driven increase in the impact of floods and landslides could contribute to rural-urban migration. • Lack of data on peoples with disability (PWDs) poses challenges on development of inclusive DRR and CCAM plans.	
Environment and climate change (and progress on global commitments)	<u>Climate Risk Projections</u> • Heatwave • Drought • Flood and Landslide • Air Pollution <u>Key Climate Impacts</u> • Kyrgyzstan is one of the most climate vulnerable countries in the region. According to ALL projections temperatures will continue to increase, and most likely accelerate. By the end of the century the average temperature in Kyrgyzstan will likely be 4-5° higher than today. • The high dependence on glacial melt water for agriculture and energy, the importance of natural resources for rural livelihoods, and the energy requirements for pumping water exposes communities throughout the country to threats to their health, nutrition, education, protection, and lifetime opportunities, all of which are exacerbated by climate change. Under warmer and more variable rainfall conditions electricity for cooking, heating and pumping water will become more expensive and less reliable, while surface and shallow ground water will become both more important, and less available. Access to improved water sources, sanitation and hygiene standards can be expected to fall, with implications for children's health and education. • Water resources in the Kyrgyz Republic are under pressure, with declines in stored water volumes recorded between 2003–2013. While climatic factors have played a role, particularly occurrence of drought and increased rates of evaporation, other human development pressures, such as expansion of irrigation, are often the strongest drivers of water stress • Historical warming has already had an impact on largescale vegetation health across Central Asia and locally in the Kyrgyz Republic. Over the period 1992–2011 rising temperatures were associated with significant loss of 'greenness' in lowland and cropland regions. These losses have been linked to increased water deficits driven primarily by greater	WB- ADB Climate Risk Country Profile World Bank data UNICEF

	evapotranspiration which can result in stunted plant growth and desiccation • The Central Asia region is identified as a hotspot of potential dryland expansion under future climate change. In some cases desertification may also be at risk but evidence from 2017 suggested Kyrgyz Republic contained the majority of the land immediately vulnerable to desertification. • Air quality in Bishkek and other regions has been assessed as poor. Across Bishkek residents are exposed to annual average concentrations that range from moderately elevated to far in excess of concentrations known to cause major health impacts in populations as a result of the prevalence of residential winter heating types in different spatial locations in the city. Air pollution is the single biggest environmental risk factor for premature death and ill-health in Kyrgyzstan. UNICEF has assessed that availability and awareness of clean household alternatives and their relative costs is a • key barrier to reducing air pollution	
Governance and Political Analysis	National Adaptation Policies and Strategies • National Communications to the UNFCCC Status Three submitted with latest on January 2017 • Enacted in 2011: National Strategy for Comprehensive Safety of Population and Territories of the Kyrgyz Republic from Disasters and Emergencies: 2012–2020 • Ongoing development of National Strategy and Climate Change Adaptation Plan • Nationally Determined Contribution (NDC) to Paris Climate Agreement- Two Submitted in 2020 (Russian) and 2015.	WB- ADB Climate Risk Country Profile
Prevention & humanitarian-development-peace linkages	• Climate-driven water stress and increase in the impact of floods and landslides could contribute to rural-urban migration. • Poorer businesses are least able to afford space heating and cooling or building energy efficiency improvements. Poorer farmers and communities are least able to afford local water storage, irrigation infrastructure, and technologies for adaptation. • In the Kyrgyz Republic there is evidence that women and poorer rural dwellers are most likely to be affected by flash flooding and landslide as they spend proportionately more time in exposed residential and a subsistence production area.	WB- ADB Climate Risk Country Profile

3. MULTI-DIMENSIONAL RISK AREA

 SDG	Risk Factors	Source + comments
Risk Area		
Displacement and migration 16/17	• Displacement: 120 internally displaced persons, new displacement associated with disasters (number of cases) in 2021 • Refugee population by country or territory of asylum: 317 (2021) • Migration and immigration: No data available	World Bank data
Democratic space 16/17		Not covered by UNDRR
Economic Stability 8/17	• GDP per Capita: 1,276.2 (2021) • World Economic Outlook: 15 Indicators • Inflation Rate: 13.5% • Ease of Doing Business Rank: 80 • Trading Across Borders Rank: 89	World Bank data IMF data World Bank – World Integrated Trade Solution (WITS) data
Environment and climate 12/13/14/15/17	• Environmental Performance Index: Score 35.70 (Rank 126) Deforestation: In 2010, Kyrgyzstan had 578kha of tree cover, extending over 2.9% of its land area. In 2021, it lost 17.5ha of tree cover. • Biodiversity: In 2015, the average terrestrial biodiversity intactness in Kyrgyzstan was 56%, indicating a medium level of biodiversity remaining relative to a baseline ecosystem with minimal human impact. • Water Ecosystem: 24% of water basins are experiencing rapid changes; 50% of renewable water is being withdrawn; 31% is degree of implementation of integrated water resources management • 19% of domestic wastewater safely treated • Monitoring of ambient water quality of water bodies: No data available	Environmental Performance Global Forest Watch UN Biodiversity UN Water
Food Security, agriculture & land 2/17	• Baseline Water Stress: 50% of renewable water is being withdrawn • Loss, damage to crops • Lack of crop diversity • Loss, damage to livestock • Loss or lack of arable land • Reliance on food imports	UN Water WB- ADB Climate Risk Country Profile
Gender equality 1/2/4/5/6	• GII 0.370 Rank 87 out of 170 • Total literacy rate (%) 15 years and older: 99.6 (2019) • Male literacy rate (%) 15 years and older: 99.7 • Female literacy rate (%) 15 years and older: 99.5	GII UNESCO
Internal security 16/17		
Infrastructure and access to social services 4/5/7/9/11/17	• Individuals using the Internet (% of population): 51 (2019) • Access to Electricity: 100% of population has access to electricity (2020) • Electric power consumption (kWh per capita): No data	World Bank data

	available	
Justice and rule of law 16/17		
Political Stability 16/17		Not covered by UNDRR
Public health 3/17	- Global Health Security Index: 42.4 - See Part 1- Basic Risk Data > Hazards > Biological	Full report Country GHSI Profile
Regional & global influences 16/17		Not covered by UNDRR
Social cohesion 1/5/10/17		Not covered by UNDRR
Education 4/17		
School Safety	Up to 89 per cent of all preschool and 81 per cent school buildings and structures in the Kyrgyz republic are structurally unsafe and do not meet the legislative requirements for a number of safety measures.	UNICEF Kyrgyzstan