



Forum on Financial Protection against Natural Disasters in Central Asia

Proceedings



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Forum organizers. Photo credit: World Bank

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Abbreviations

ARC	African Risk Capacity
CADENA	Program for Natural Disaster Support (Mexico)
CAT-DDO	Development Policy Loan with a Catastrophe-Deferred Drawdown Option
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CESDRR	Center of Emergency Situations and Disaster Risk Reduction
FLEXA	fire, lighting, explosion, aircraft impact
FONDEN	Natural Disaster Fund (Mexico)
GDP	gross domestic product
GSCHS	Territorial System of Prevention of and Activities in Emergency Situations (Uzbekistan)
PMFBY	Pradhan Mantri Fasal Bima Yojana (India)
SIO	State Insurance Organization (Kyrgyz Republic)
TCIP	Turkish Catastrophe Insurance Pool

Background

The Forum on Financial Protection against Natural Disasters in Central Asia took place in Almaty, Kazakhstan, on February 26–27, 2019. Organized by the World Bank with support of GFDRR for policy makers and practitioners from the five Central Asian countries—Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan—the forum allowed participants to share their experiences and challenges, and to learn from countries outside the region that have made progress in disaster risk financing.

Major natural disasters are all too familiar for this region. Almaty, the vibrant and cheerful city hosting the forum, was destroyed by an earthquake in 1911. Central Asia as a whole is exposed to many hazards in addition to earthquakes, including floods, droughts, landslides, mudflows, and extreme temperatures. Seismic risk is particularly widespread, however. In addition to Almaty, the cities of Ashgabat and Tashkent—which along with Bishkek and Dushanbe are the region’s main population and economic centers—were leveled by earthquakes in the 20th century.

Disaster risk is expected to rise in Central Asia as a result of urbanization as well as population and economic growth. Moreover, climate change is expected to increase weather-related disasters, which cause significant damage in the region. In 2000–2001, for instance, a major drought caused a direct economic cost of about US\$800 million in parts of Central Asia (and the Caucasus), decreasing crop yields by 30–40 percent¹.

Natural disasters threaten the livelihoods and well-being of more than 70 million people living in Central Asia. All of the region’s economic sectors can be affected by disasters: agriculture, for instance, which employs 33 percent of Central Asia’s population, is one of the sectors most vulnerable to hydrometeorological disasters such as flooding or drought. In Tajikistan, where over half the crops grown depend on precipitation and irrigation seasons, such disasters can be devastating. Natural disasters also affect economic activities such as trade; each year, the region’s main trade route (the M41 highway) is slowed down or cut off by disasters.

Since 1992, natural disasters in Central Asia have caused over US\$2.5 billion in damages.² Disasters strike the most vulnerable people the hardest: worldwide they force some 26 million people into poverty every year.³ Disasters can also impede important poverty reduction efforts that Central Asia has been making over the past decades.

When a large-scale disaster strikes, the resulting needs can often overwhelm government resources, while smaller-scale but more frequent disasters often drain carefully planned budgets. Disasters thus represent an important financial challenge for governments, which need to provide emergency relief and social assistance after a disaster event as well as reconstruct public assets and infrastructure. Beyond such direct financial costs, disasters can have negative impacts on a country’s long-term growth potential, such as when recurrent shocks reduce human and physical capital accumulation.

¹ World Bank. 2005. “Drought: Management and Mitigation Assessment for Central Asia and the Caucasus”.

² The figure is from the EM-DAT International Disaster Database, Université catholique de Louvain (UCL)–CRED, D. Guha-Sapir, Brussels, Belgium, <https://www.emdat.be/>.

³ Stephane Hallegatte, Adrien Vogt-Schilb, Mook Bangalore, and Julie Rozenberg. 2017. *Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters*. Climate Change and Development. Washington, DC: World Bank, <https://openknowledge.worldbank.org/handle/10986/25335>.

Financial preparedness helps to mitigate disasters' impacts on economies, populations, and government budgets. Governments in Central Asia are increasingly putting in place measures to strengthen financial preparedness for natural disasters. For instance, work on agriculture insurance in Kazakhstan is ongoing; a mandatory disaster insurance scheme is being rolled out in the Kyrgyz Republic; and Tajikistan is preparing a disaster risk finance strategy. In addition, several Central Asian countries are planning to carry out disaster risk assessments and fiscal impact analyses of disasters.

This forum was organized to support these efforts and to provide an opportunity for regional collaboration, cross-country learning, and knowledge exchange. Such cooperative approaches make sense given that disasters often extend beyond borders, and they are particularly warranted in the context of Central Asian, where countries have similar risk profiles and institutional frameworks. Beyond their value for individual countries, these collaborative approaches could be the first step toward multi-country risk financing mechanisms that help realize financial efficiency gains.

More specifically and immediately, **the forum had the following objectives:**

- Raise awareness of the fiscal risks that disasters pose to governments, businesses, households, and farmers
- Share good practices on financial preparedness for disasters from Central Asia and beyond.
- Foster collaboration between governments of Central Asian countries on disaster risk finance.
- Discuss possible follow-up activities in advancing financial protection

The full program for the event, with the names and affiliations of all participants, is included at the end of this document.

Central Asia's Disaster Risk Financing: A Brief Overview

Kazakhstan

Depending on the severity of the event, post-disaster financing in Kazakhstan—including for reconstruction of public infrastructure and assets—is provided from either organization, the local government or national government budget.

The Civil Protection Law of Kazakhstan provides for establishment of relevant contingency reserves, and a number of contingency reserves are available at the local and national level. For instance, there is national reserve fund for supporting people's livelihoods after a man-made or natural disaster.



Figure 1. Floods in Kazakhstan. Photo credit: Committee of Emergency Situations of Kazakhstan.

In 2016, the allocation for this fund was about US\$671 million. A contingency reserve is also established by the provisions of the Committee of Emergency Situations (for disaster response and recovery, such as medical assistance and rescue operations). Local government reserve funds are available as well, though their allocations should not exceed 2 percent of the relevant budget revenues. Kazakhstan has access to material reserves for disaster response and recovery, as well as for supporting humanitarian actions in other countries. When these resources are exhausted, reallocation and borrowing can be used.

The government of Kazakhstan has also been working to improve agricultural insurance. Currently, agricultural insurance is mandatory, but payouts cover on average only 20 percent of costs incurred by farmers during sowing season. Further, the current product relies heavily on reports provided by KazHydromet's network of meteorological stations, which does not cover the entire country. As a result, payouts are often delayed and may be subject to human error and related risks. The insurer receives government subsidies of 50 percent for any payouts.

To improve protection of farmers against natural disasters, the government of Kazakhstan plans to introduce a voluntary weather index-based insurance product. Designed to be linked to agricultural credit, this product will offer a simple, unified methodology and a standardized and transparent insurance contract structure. The law on introducing this product is expected to be approved in 2019.

The government of Kazakhstan has also been exploring the possibility of introducing mandatory disaster insurance for private property.

Kyrgyz Republic

In the Kyrgyz Republic, disaster response is funded first by the budgets of the Ministry of Emergency Situations and local governments. When these resources are exhausted, the Ministry of Emergency Situations can request additional support from the government through the Ministry of Finance. The gap will likely be financed first from a special emergency account or a state budget reserve, then (if necessary) by reallocation between budget lines or other sources.

For recovery and reconstruction, the first source of financing is relevant budgets of line ministries or local governments (depending on who owns the damaged asset). If these resources are exhausted, then resources are requested through the Ministry of Finance, which develops a proposal for mobilizing the required resources (from those available) on a case-by-case basis. The decision is coordinated and approved with the Cabinet of Ministers and a budget committee of the Parliament.



Floods in the Kyrgyz Republic. Photo credit: Ministry of Emergency Situations of the Kyrgyz Republic.

The government of the Kyrgyz Republic has access to reserve funds (including national, local, and Ministry

of Emergency Situations reserve funds as well as material reserve funds). The World Bank has estimated that a maximum of US\$60 million is available in these funds altogether. Most of these funds are not earmarked for disasters. The government can also attract additional resources through budget reallocation or borrowing (including from development partners), from donor aid, or by approval of additional dedicated budget allocations for disaster response and rehabilitation in the annual national budget. At the same time, line ministries are required to finance post-disaster needs from their budgets to the extent possible, and their requests for additional funds are subject to scrutiny.

In 2015, the government of the Kyrgyz Republic launched a mandatory disaster insurance program. The government also officially declared that it would stop providing grants or loans to people for disaster losses (article 3 of the amended regulation 155 from 2007). The disaster insurance program covers households against 18 perils including fire and natural disasters, such as earthquake, flooding mudflow, landslide, hail, etc. Mandatory coverage is set at about US\$14,500 in urban areas and US\$7,250 in rural areas, with premiums of US\$17 and US\$9 per year respectively. The insurance program today covers 9 percent of households in the country.

The Kyrgyz Republic has also been promoting voluntary agricultural insurance. Currently, when insuring crops, rural producers pay insurers 50 percent of the insurance premium, and the government covers the remaining 50 percent. Insurance premiums vary from 0.5 percent to 2.0 percent of the insured amount. Two companies have licenses to provide agricultural insurance, but they conclude almost no contracts for this type of insurance. Instead, many applications are rejected due to the lack of an independent harvest-weighting system and the low number of customers. Three companies in the Kyrgyz Republic offer livestock insurance, with premiums at 3 percent to 5 percent of the insured amount.

Tajikistan



Mudslide in Barsem in 2015. Photo credit: Committee of Emergency Situations and Civil Defense of Tajikistan

From 1999 to 2016, disasters in Tajikistan caused annual average damages (exclusive of losses) of around US\$75 million.

For disaster response and rehabilitation, Tajikistan relies first on local budgets (local governments have reserve funds that can be used for natural disasters) along with the resources of the Committee of Emergency Situations and Civil Defense, which are used for disaster response. When these resources are exhausted, the national budget is used. Several risk financing mechanisms are in place at the national level, including the Contingent Fund, material reserves, borrowing (including concessional loans), and reallocation.

Donors also help finance post-disaster needs in Tajikistan; between 1999 and 2016, they contributed about US\$91.9 million for response and rehabilitation. The private sector is also expected to contribute to disaster response and recovery.

The World Bank has estimated that in 2016, the government of Tajikistan had approximately US\$11.5 million available in ex ante instruments that could potentially finance some disaster-related losses. A significant portion of these funds was not exclusively earmarked for disaster response spending.

Disaster insurance is available in Tajikistan; however, Tajikistan's insurance market remains small. AXCO reports⁴ market penetration as 0.39 percent of gross domestic product (GDP) and expenditure on insurance per capita as US\$3.09.⁵ Disaster insurance in Tajikistan is provided in a multi-peril product bundled with fire insurance and is rated as part of the overall cover. The deductible can be as high as 10 percent of the sum insured, but is more often around 2 percent of the sum insured for earthquake and US\$250 for other perils. While property insurance accounts for 22.1 percent of all insurance premiums collected, local insurers' portfolio consists mainly of commercial or institutional clients. Premiums for disaster insurance range between 0.06 percent and 8.0 percent of the sum insured.

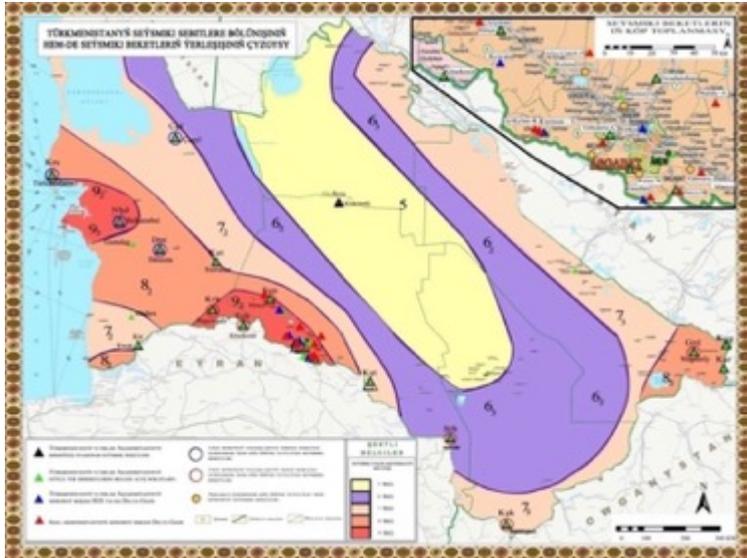
⁴ AXCO. 2019. "Insurance Market Report. Tajikistan: non-life (P&C)"

⁵ In comparison, per capita expenditure on insurance in Kazakhstan is US\$62.37; in the Kyrgyz Republic it is US\$2.56.

Turkmenistan

In Turkmenistan, disaster risk financing is provided by the own resources of ministries, agencies, organizations, and industries; by national and local budgets; and by insurance funds. Financing is first provided by local governments, and then by the national government if these resources prove insufficient.

Recovery and reconstruction of public assets should be financed by the budget of the government or organization that owns the specific asset. Citizens, funds, and religious and social organizations can also contribute to recovery and reconstruction funding.



Seismic zonation in Turkmenistan. Source: Ministry of Defense of Turkmenistan.

The government of Turkmenistan has access to the Emergency Reserve Fund, contingency reserves, and material reserves that can be used after natural disasters. The first of these can also be used for providing humanitarian support to other countries. The State Committee on Emergency Situations of Turkmenistan under the country's president helps decide on allocations

from the Emergency Reserve Fund (the committee is a permanent body responsible for coordinating disaster prevention and response and for collecting disaster information). Contingency reserves can be used for disaster response and recovery and are available on both local and national levels. The size of the national reserve funds is defined annually by the State Budget Law. The size of the local reserve funds is defined by the relevant executive bodies and should not exceed 2 percent of the relevant budget revenues. Relevant government or executive bodies are responsible for using these reserve funds. The resources in the funds lapse at the end of the year.

If insufficient, resources in the reserve funds can be increased by reallocating relevant budgets from other types of reserves. Changes in allocations to the local reserves are possible with the permission of the Ministry of Finance and Economy, which will consider providing resources from the national budget. Borrowing is also a potential source of disaster financing for Turkmenistan. The Central Bank of Turkmenistan is allowed to provide credits to the Cabinet of Ministers through the Ministry of Finance and Economy.

Several insurance products are available in Turkmenistan, although figures for their uptake could not be obtained for these proceedings. Among the available products are agricultural insurance for farmers' property and crops (against different types of weather-related disasters), voluntary mortgage insurance (against fire and disasters), and multi-peril private property insurance. In 2014, the insurance market was de-monopolized (previously, most insurance was sold by the State Insurance Organization).

Uzbekistan

In Uzbekistan, the initial responsibility for financing disaster response and recovery belongs to local governments, government agencies and organizations, and line ministries—that is, the relevant stakeholders making up the Territorial System of Prevention of and Activities in Emergency Situations (GSCHS), which is led by the Ministry of Emergency Situations. In case these resources are exhausted, post-disaster financing can draw on the reserve fund of the Cabinet of Ministers, material reserves of the Red Cross Society, and donor or bilateral aid. Regulation #242 of the Cabinet of Ministers also provides that private property should be adequately insured against disasters.



Disasters in Uzbekistan. Photo credit: Ministry of Emergency Situations of Uzbekistan.

In 2018, the allocation of the Cabinet of Ministers' reserve fund was US\$32 million. According to the State Budget Law of 2018, local reserve funds were set at about 1 percent of respective budgets (with all local reserve funds totaling US\$32 million). The latest World Bank Public Expenditure and Financial Accountability assessment⁶ finds that in 2008–2010, practically all the resources in these funds were used for various purposes throughout the year. The National Road fund under the Cabinet of Ministers also includes reserves that are

earmarked to pay for natural disasters and reconstruction of roads (with US\$15 million in 2018). Further, according to the Budget code, Article 144, it is possible to introduce changes to the expenditure part of the national budget, which allows for budget reallocation after natural disasters.

People in Uzbekistan can purchase voluntary disaster insurance for private property. It covers such perils as fire, lightning, and explosion (part of so-called FLEXA insurance that also includes aircraft impact), together with catastrophic perils (such as earthquake, flood, landslide, etc.) and nuclear disaster. Premiums for buildings and contents are reported to range from 0.15 percent to 0.20 percent of the insured amount. Deductibles vary by zone at 2–5 percent of the sum insured. However, the market trend—a result of severe competition—is to eliminate deductibles altogether. AXCO reports⁷ that uptake of property disaster insurance is insignificant as of 2018.

Agricultural insurance is also available in Uzbekistan. AXCO reports that the only insurers writing agricultural risks are state-owned insurers Uzagrosugurta and Kafolat, and that Uzagrosugurta has a near-monopoly on insurance in this sector. The agricultural insurance product covers on average 50–80 percent of the expected crop/cattle price.

Overall, insurance consumption per capita is nascent in Uzbekistan. Compared to an average for emerging markets of US\$135 in 2015, insurance consumption per capita in Uzbekistan stood at US\$7.14 in 2017. The government of Uzbekistan recognizes the important role of disaster insurance; provisions in several laws and decrees call for insuring people in risky areas, and disaster insurance is among the priorities of insurance market development.

⁶ World Bank. 2012. “Public Expenditure and Financial Accountability Assessment.”

⁷ AXCO. 2018. “Insurance Market Report. Uzbekistan: non-life (P&C)”

Conclusions

All five countries in Central Asia handle disaster risk financing in a similar way. Local governments, ministries, or organizations affected by a disaster have the first responsibility to finance disaster response and recovery. Reconstruction also has to be financed through budgets of local governments or ministries, although these are likely to be insufficient, meaning that the national government will have to step in. All the governments have established relevant reserve funds at different levels, but practically none are earmarked for disasters, and all lapse at year's end. (Tajikistan has initiated efforts to establish an accruing reserve fund.) In the Kyrgyz Republic, Tajikistan, and Uzbekistan, donors also support disaster preparedness, response, recovery, and reconstruction. All countries of Central Asia provide for potential budget reallocation in case the existing resources are insufficient (in Turkmenistan, these resources are to be reallocated to the reserve funds).

Another similarity is that in four of the five countries (all but the Kyrgyz Republic since 2015), people are legally entitled to compensation from the government after natural disasters. The capacity of Central Asian governments to provide such support varies. In most of the countries, fiscal space is extremely narrow; thus Kazakhstan, for instance, provides that such compensation should be sufficient only to satisfy minimum living requirements. It is unclear if the governments will be able to continue providing this support over time. If they cannot, disasters could have a severe impact on the population, particularly the vulnerable and poor, such as small subsistence farmers in rural areas.

The effort being made to provide adequate risk transfer solutions also varies by country. The Kyrgyz Republic is the first country in the region to introduce a mandatory disaster insurance program for private property, although other Central Asian countries offer voluntary disaster insurance. In all the countries, disaster insurance for private property is offered as part of FLEXA coverage with other natural (and sometimes man-made) disasters. Such bundling can leave insurers unable to properly assess the risk and therefore to purchase adequate reinsurance; this limitation threatens the stability of the insurance market. Some efforts on agricultural insurance are also under way in the region; Kazakhstan is working to introduce innovative agricultural insurance, and the Kyrgyz Republic is also taking some steps in this direction.

Between 1992 and 2018, disasters caused an estimated US\$2.5 billion in damages to Central Asia, and major earthquakes in the 20th century have had a devastating impact. This context suggests that the resources of Central Asian governments might be insufficient for mobilizing the liquidity required for response and reconstruction following a major natural disaster. At the same time, the provisions for compensating the affected population from the national budget or local budgets represent a substantial government liability. Because of the limited fiscal space and the time required for government aid to materialize, people might not receive sufficient timely support to ensure their quick recovery. Because risk transfer options such as insurance are critically limited, they might not be able to provide the required support. Thus major disasters will likely impose a long-lasting burden on Central Asia's governments, populations, and economies.

Proceedings

Opening

The forum was opened by Ato Brown, World Bank country manager for Kazakhstan. “Today, we find ourselves in an environment in which natural disasters do not represent a distant threat, but a reality,” he told the audience. “Due to its geographical features and diverse landscape Central Asia is extremely prone to a variety of natural hazards.” He reminded the participants that the city of Almaty, where the forum was taking place, was devastated by an earthquake in 1911, and that the region as a whole is at high seismic risk, with earthquakes on average causing an estimated annual loss of 3.2 percent of the regional GDP.



*Ato Brown, country manager for Kazakhstan, World Bank.
Photo: World Bank*

Ato Brown emphasized that countries need to reduce disaster risk—but must also be prepared for disasters. “Disasters hinder development,” he said, “forcing governments to spend their resources on response and reconstruction. Reducing disaster impacts is possible, and it often costs less than responding to disasters when they occur. However, it is also important to be prepared for a disaster when it strikes.” By taking disaster risk information into account and establishing strong institutional mechanisms, “countries can offset negative impacts and . . . bounce back quicker from disasters.”

Talgat Nurmagambetov, deputy chair of Kazakhstan’s Committee of Emergency Situations, echoed and expanded on these remarks by sharing some experiences of Kazakhstan, which faced 614 emergency situations in just the first half of 2018. “The government of Kazakhstan has placed disaster risk management among its national priorities. It made important efforts in implementing the Hyogo Framework for Action and now works on implementing the Sendai Frameworks for Disaster Risk Reduction. Disaster risk management in Kazakhstan is also integrated in different sectoral programs”—for instance, agriculture programs. At the national level, it is integrated in the Strategic Plan for Development of the Republic of Kazakhstan until 2020.



Talgat Nurmagambetov, deputy chair of the Committee of Emergency Situations of the Ministry of the Interior, Kazakhstan. Photo: World Bank

Talgat Nurmagambetov noted that other countries in Central Asia have likewise recognized the importance of disaster risk management and made significant efforts to improve it. However, much remains to be done across the region.

Serbia: 2014 Floods and the Aftermath

This keynote session looked at Serbia's experiences with catastrophic flooding in May 2014 and at some of the lessons learned as a result. The event underscores the critical importance of strengthening disaster risk management, and specifically financial protection against disasters.

The May 2014 floods, the result of extraordinary rains, affected 22 percent of Serbia's population, forced 32,000 people out of their homes, and took 57 lives. Damage and losses from the floods—to businesses, farms, schools, health care facilities, homes, and crucial infrastructure—were estimated at €1.7 billion, equal to 4.8 percent of Serbian GDP. Donors helped the government after the floods,



Dušan Vujović, PhD, professor of economics at FEFA and former minister of finance of Serbia. Photo: World Bank

but even the combined efforts of donors and the government were insufficient. Scarce resources delayed response and recovery efforts, in turn exacerbating the disaster's impact.

In the year of the disaster, the Serbian government was overwhelmed with other important concerns (e.g., accession to the European Union). Hence it devoted little attention to fiscal risks in general, and severely underestimated the risks of natural disaster. In short, the country was not prepared.

The government had minimal contingency reserves for natural disasters and no readily available emergency financing plans in place. Disaster insurance coverage and penetration were extremely low: only 2.5 percent of the damages (to houses and productive resources) were recovered through insurance claims. Insurance was not well established, and most people expected help from the government.

The government had minimal contingency reserves for natural disasters and no readily available

The floods disrupted economic activity in much of the country and led to a 2.3 percentage point contraction of GDP (from 0.5 percent projected growth to a 1.8 percent decline). Flooding adversely affected energy supply: with open-pit coal mines flooded, electricity production declined by 25 percent, leading to energy shortages despite the increased imports.

Agriculture—a major employer in rural areas and a source of food security in Serbia—was hit particularly hard by the floods. Over 12,000 hectares, or 28 percent of total arable land, was rendered useless, and 41 percent of all livestock was located in the flooded areas.

Flood protection infrastructure was also damaged, leaving the country more prone to future floods. In addition, the disaster pushed a significant number of people below the poverty line.

In response to the floods, the government took some important measures, mobilizing multilateral, bilateral, and private assistance as well as support from development partners. Despite enormous effort and many successes, however, the government response was essentially reactive, and reconstruction took a long time.

Serbia learned important lessons from the 2014 floods. Since then, the government has launched a series of comprehensive reforms based on best world practices:

- It enacted the National Disaster Risk Management Program to ensure better preparedness for future disasters and mainstream risk reduction.
- It entered into a contingent credit arrangement with the World Bank—a Disaster Risk Management Development Policy Loan with a Catastrophe-Deferred Drawdown Option (CAT-DDO)—to gain quick and efficient access to affordable financing for recovery and reconstruction needs.
- It reformed its legal system to ensure better donor coordination, facilitate procurement, and improve public financial management of resources aimed at alleviating the consequences of natural disasters.

Financial and Economic Impact of Natural Disasters in Central Asia

Central Asia's diverse geography exposes it to a range of natural hazards. In this session, representatives of the region's five governments offered an overview of the hazards their countries face and summarized the financial and economic impacts of some major disasters.

About a third of Kazakhstan's territory lies in a seismic zone where more than 6 million people live. The country is vulnerable to floods, including more than 1,055 settlements—home to over 7 million people. In 2018, 1,453 homes across the country were affected by floods, and total damage from floods was estimated at more than US\$3.1 million.



Representatives of five countries of Central Asia. Photo: World Bank

In the Kyrgyz Republic in 2018, 99 disasters caused an estimated US\$17.8 million in damage and killed 18 people. For example, a mudflow in Batken oblast caused significant damage to private assets and public infrastructure. In 2017, 339 disasters caused an estimated US\$14.9 million in damage and killed 141 people.

In Tajikistan, a disaster occurs on average every two days, and one disaster-related death occurs on average each week. In 2015, a Bartang earthquake caused three deaths and destroyed or damaged 643 houses, more than 37 schools, and four hospitals. In 2017, avalanches in Maihura in Varzob district took the lives of 16 people. Earthquakes on average cause US\$3.3 million in annual damages, droughts cause US\$5.4 million, and mudflows US\$15 million. The catastrophic 1949 Khait earthquake and subsequent landslide killed over 20,000 people.

Both Turkmenistan and Uzbekistan faced major earthquakes in the 20th century. Devastating events occurred in Ashgabat in 1948 and Tashkent in 1966. Today both countries are prone to floods, droughts, and many other hazards in addition to earthquakes. In Uzbekistan's Cashkadaryinskaya oblast, for instance, severe floods affected 309 assets (causing US\$191 damage).

Disaster Risk Finance: An Introduction

This session, led by a financial sector specialist at the World Bank Disaster Risk Financing and Insurance Program, explained how disaster risk financing helps countries mitigate the impact of natural disasters, how it fits into disaster risk management more generally, and what countries can do to strengthen their financial resilience.

Most basically, disaster risk financing allows countries to improve their financial resilience against natural disasters by implementing sustainable and cost-effective financial protection measures. It also helps them minimize post-disaster funding needs, optimize the timing for meeting those needs, and protect development goals, fiscal stability, and well-being. By promoting comprehensive financial protection strategies, it ensures that governments, homeowners, small and medium enterprises, agricultural producers, and the most vulnerable populations can meet post-disaster funding needs as they arise.

Disaster risk financing is an integral part of disaster and climate risk management that complements investments in risk reduction, prevention, and resilience (figure 1).



Figure 2. Disaster risk financing as a part of disaster risk management. Source: World Bank, “Financial Protection Against Natural Disasters: An Operational Framework for Disaster Risk Financing and Insurance,” World Bank, Washington, DC, 2014, <https://openknowledge.worldbank.org/handle/10986/21725..>

Disaster risk financing addresses residual risk—the risk that cannot be reduced or prevented, for either practical or financial reasons. Only by looking at the financial impact of disasters comprehensively can governments build the financial resilience of society as a whole.

There are several **core principles of disaster risk financing**:

- Timeliness of funding is essential: speed matters, but not all resources are needed at once.
- How money reaches beneficiaries is as important as where it comes from.

- Disaster risk layering is necessary because no single financial instrument can address all risks.
- To make sound financial decisions, governments need the right information.

There are some **initial steps** that countries can take **to strengthen financial resilience**:

- Take stock of how disaster response is currently financed.
- Gather risk information/carry out risk assessments.
- Decide on policy priorities (figure 2).
- Build a financial protection strategy.
- Work with and improve existing processes.



Luis Alton, financial sector specialist, Disaster Risk Financing and Insurance Program, World Bank. Photo: World Bank

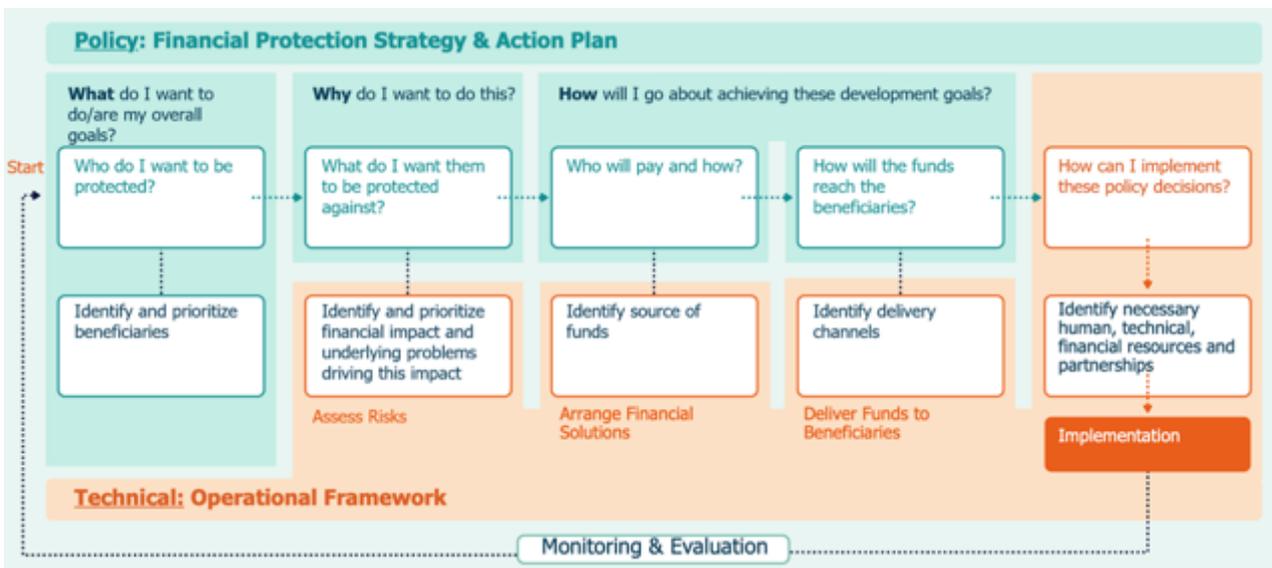


Figure 2. Deciding on disaster risk financing policy priorities. Source: World Bank, "Financial Protection Against Natural Disasters: An Operational Framework for Disaster Risk Financing and Insurance," World Bank, Washington, DC, 2014, <https://openknowledge.worldbank.org/handle/10986/21725>.

Reserve Funds

An increasing number of countries are establishing dedicated disaster reserve funds, often on the advice of international institutions. If well designed, these funds can ensure that sufficient resources are available to meet the needs of relatively low-impact events, while also improving transparency and efficiency in expenditures. At this session, World Bank experts described the role of reserve funds as part of disaster risk financing in Mexico and Mozambique.

In Mexico, natural disasters are an ongoing threat, and losses in the past have been high. In 1985, for example, an earthquake caused over 6,000 fatalities, affected over 3,500 buildings, and caused economic loss of more than US\$4 billion. The Mexican government introduced a reserve fund FONDEN (Natural Disaster Fund) as a financial instrument to support the population in the immediate aftermath of a disaster and to finance both disaster recovery and reconstruction of public infrastructure (figure 3).

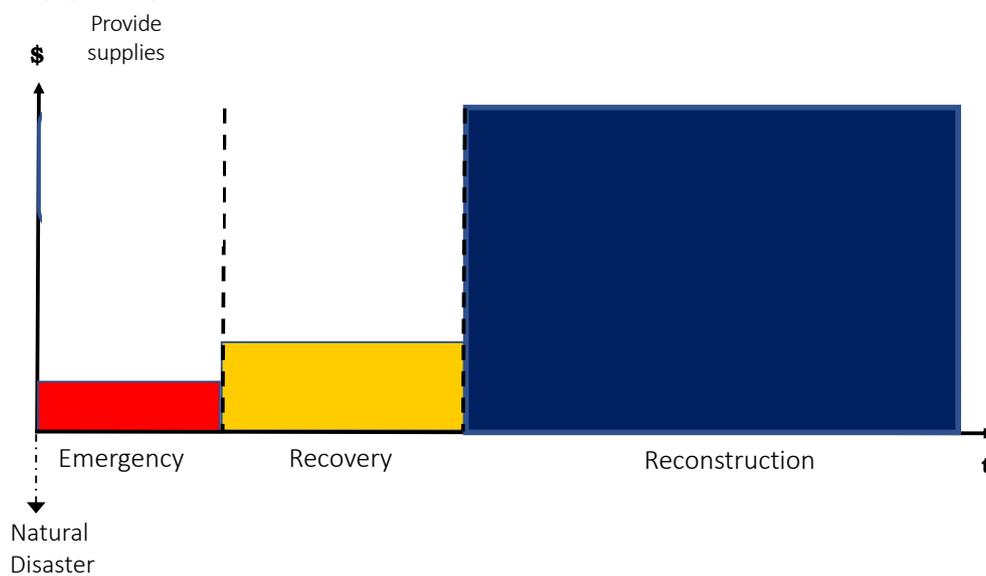


Figure 3. Use of FONDEN resources over different post-disaster phases. Source: Based on World Bank, “Financial Protection Against Natural Disasters: An Operational Framework for Disaster Risk Financing and Insurance,” World Bank, Washington, DC, 2014, <https://openknowledge.worldbank.org/handle/10986/21725>.

The Mexican government allocates 0.4 percent of the national budget to FONDEN every year. These resources are complemented with risk transfer instruments purchased by FONDEN to ensure sufficient resources are available for disaster response and, later, reconstruction.

FONDEN requires (and fosters) collaboration between the national and local governments. FONDEN resources become available after the national government has issued a declaration of emergency and the local government has carried out a damage assessment. Efficiency in using the resources is achieved with transferring them directly to contractors and not to national or local government agencies.



Salvador Perez, disaster risk finance Consultant, World Bank. Photo: World Bank

Mexico also has developed a mechanism—the Program for Natural Disaster Support (CADENA)—to support smallholder farmers after disasters. CADENA is a fund managed by the Ministry of Agriculture that receives annual allocations. The program was initially established to provide compensation, but was later extended to support insurance for smallholder farmers. The insurance is purchased by the local governments, which pay 10 percent of the premium; the remaining 90 percent is contributed by CADENA. After a disaster, the local government distributes payouts to farmers according to predetermined rules.

Another example of a reserve fund is from Mozambique, whose government often faced large disaster-related expenditures at times when regular reserve funds had already been depleted for the year. In 2017, the government decided to establish a reserve fund to finance disaster preparedness, immediate response, rehabilitation, reconstruction, and relief via the social protection system and risk transfer products. One further aim of the fund, which mostly provides aid in kind rather than cash, is to ensure that disaster response and recovery are efficient and transparent as well as quick; it therefore requires contracts with suppliers of goods to be agreed ex ante and prices negotiated beforehand.



Questions from the audience about reserve funds. Photo: World Bank

The fund is financed through an annual budget allocation equivalent to 0.1 percent of the total national budget, though it can also be financed by donors and private contributions. It is activated based on a predetermined classification of disasters.

The fund in Mozambique is set up so that in principle—once the requisite systems are in place—it could finance social safety nets (providing targeted cash and in-kind transfers) to channel money directly to the poor after natural disasters. Social safety nets allow aid to reach beneficiaries—the poor, who are always the most affected by natural disasters—while scaling up the number of beneficiaries based on pre-determined criteria.

Box 1. Reserve funds

Benefits:

- Access to quick liquidity, which allows faster government response
- Support for reconstruction of public assets and purchase of risk transfer (FONDEN); incentives for risk reduction

Challenges:

- Need for sound legal frameworks
- Need for political commitment
- Need for clear operational rules and responsibilities
- Need to make allocations to the reserve fund

Box 2. Social safety nets

Benefits:

- Targeted and timely support to the most vulnerable groups after a disaster (e.g., poorest farmers when a drought starts) to mitigate disaster impact on these groups

Challenges:

- Need for good understanding of risk
- Need for reliable early warning to trigger payments
- Need to identify the most vulnerable households

Property Disaster Insurance

Property disaster insurance can reduce potential post-disaster funding gaps. Payouts from disaster insurance help people restore their livelihoods and have been shown to speed up economic recovery after disasters. In Central Asia, interest in disaster insurance is growing, although different countries have developed this instrument to varying degrees. In this session, representatives of Tajikistan, the Kyrgyz Republic, and Turkey described their countries' efforts to develop effective property insurance for disasters.

In Tajikistan, 22.1 percent of total premiums is collected from property insurance, which is mainly bought by commercial or institutional clients, rather than individuals. Today the multi-peril disaster insurance product offered in Tajikistan bundles together FLEXA (fire, lighting, explosion, aircraft impact) with other perils—it is currently impossible to purchase separate coverage for individual perils. Insurance premiums range from 0.06 percent to 8 percent of the sum insured.

According to the National Bank, risks are not properly assessed by the insurers and premiums are inadequate. There is also little interest among local companies in selling this type of insurance; only four companies are currently developing this line of business. However, the National Bank began supervising the insurance industry in 2017, so major changes in Tajikistan's insurance market are likely going forward.



Dilbar Khuseynova, head of the Insurance Supervision Division, National Bank, Tajikistan. Photo: World Bank



Sanzhar Mukanbetov, chair of State Service for Financial Market Regulation and Supervision, Kyrgyz Republic. Photo: World Bank

outstanding loans steadily increasing over the years. But while the government's support continued to grow, it was still inadequate to ensure quick and complete recovery after natural disasters. After a series of smaller earthquakes and a major earthquake in Issyk-Kul oblast, the president of the Kyrgyz Republic instructed the government to explore housing insurance against natural disasters.

The law mandating disaster insurance for private property was subsequently adopted, but the program has faced challenges. Insurance premiums were significantly decreased under



Bilal Türkmen, deputy secretary general, Turkish Catastrophe Insurance Pool (TCIP), Turkey. Photo: World Bank

public pressure and are now three times lower than provided for in the initial actuarial calculations. Partly for this reason, and partly because the insurance covers all possible natural disasters (some 18 perils are included in the policy), private companies have not been interested in taking part in this program. In response, the government established the State Insurance Organization (SIO) to manage the program. The SIO currently insures 9 percent of households but it has accumulated large liabilities (almost US\$1 billion), which it might not be able to cover fully (with its capital of about US\$4 million and no reinsurance program in place). The government is working with the World Bank on reforming the program and improving the SIO's operations.

Other mandatory disaster insurance programs have faced similar challenges and met them. In 1999, at the time of the Marmara earthquake, insurance penetration in Turkey was only 1.0 percent of GDP (4 percent of households were insured against earthquakes), and insurance spending per capita was at US\$44. The earthquake caused US\$20 billion in losses and led to an economic contraction (from a -3.4 percent projected decline in 1999 to a -5.7 percent decline in 2001). Only US\$800 million in losses was paid out by the insurance companies; the government and the people bore the remaining burden.

Soon after the Marmara earthquake, the government introduced a mandatory earthquake insurance product and established the Turkish Catastrophe Insurance Pool (TCIP) to manage it. In addition to offering potential support to the population at an affordable price, the insurance significantly limits the government's exposure to natural disasters, allows catastrophe reserves to build up over time, and improves the country's overall risk culture. The government continues to support the earthquake insurance; for instance, it has introduced a series of checkpoints at which purchase of the insurance policy is verified (such as when consumers seek to access utility services or take out a mortgage).

Today TCIP insures 50 percent of Turkish households. Since 2000, it has provided over US\$100 million in payouts following 527 damaging earthquakes. An important innovation of Turkey was to have a competitively selected private company manage the TCIP (leaving a small board of directors to supervise its work). This solution reduced operational costs of the TCIP to 2 percent of annual written premium.

Box 3. Disaster insurance

Benefits:

- Risk transfer from households to the market
- Faster recovery after disasters through faster and bigger payments to affected households (in comparison with compensations)
- Reduced government exposure
- Improved risk culture among the population

Challenges:

- Need for risk assessment to ensure the product is technically sound
- Need for political will (for mandatory disaster insurance) or consumer demand (for voluntary insurance)
- Uncertain ability of households to pay premium
- Uncertain capacity of market to offer the product

Agricultural Insurance

Agriculture is an important sector in Central Asia, generating around 14 percent of the region's GDP and employing 33 percent of the region's population. The sector is highly sensitive to extreme weather events such as droughts and floods, whose frequency and severity is expected to grow with environmental degradation and climate change. Natural disasters and their impacts on agriculture have important implications for Central Asian economies, the well-being of rural populations, and poverty reduction efforts in the region.



Aizhan Dzhakshylykova, head of Legal Department, Ministry of Agriculture, Food Industry and Melioration, Kyrgyz Republic. Photo: World Bank

This session looked at the important role that agricultural insurance can play in helping the sector rebound from the adverse financial consequences of extreme weather events. Representatives from Central Asian governments described their countries' efforts to improve the agricultural insurance they offer, while a representative from India shared lessons learned from his country's longer experience with agricultural insurance.



Azamat Hamiev, deputy director of Investment Policy Department, Ministry of Agriculture, Kazakhstan. Photo: World Bank

The Kyrgyz Republic currently has subsidized agricultural insurance, but its uptake is very low, and only two companies are licensed to sell it. The Kyrgyz Republic is currently trying to improve the program, but is challenged by lack of technical capacities and expertise.



Elena Bryskova, head of Europa Re Ltd. Representative Office in the Republic of Kazakhstan. Photo: World Bank

In Kazakhstan, where droughts happen every three to five years, the government is making major efforts to improve agricultural insurance. The goal is to increase farmers' access to credit resources and to make agricultural production more financially sustainable. The government of Kazakhstan is currently developing an innovative weather index-based insurance product that will pay out within 25 days of a claim being filed. It is designed to determine payouts based on reliable sources of information (such as government databases, NASA, the European Space Agency, etc.). The government plans to subsidize the premiums. This product will be voluntary, but will be linked to an agricultural credit, which will protect a credit institution against the risk of borrower (agricultural producer) default if unfavorable weather conditions reduce regional yields below a certain level. This approach will allow lending to agricultural producers who had no access to financing before. The government aims to design a product that is simple to understand, is possible to reinsure, reduces administrative costs,

and relies on an independent source of information for payouts. Introduction of this product is expected in 2019.

India has experience with crop insurance going back to 1985 – agricultural insurance program has seen various modifications since then. The most recent modification in the crop insurance scheme, introduced in 2016, is Pradhan Mantri Fasal Bima Yojana (PMFBY).



Ashish Kumar Bhutani, joint secretary to government of India, Ministry of Agriculture, and CEO of Pradhan Mantri Fasal Bima Yojana (PMFBY). Photo: World Bank

Crop insurance in India aims to protect farmers' investment from natural hazards and to ensure continued flow of capital within the agricultural economy. PMFBY offers an actuarial-based product that covers two crop seasons. Premiums are subsidized for farmers, who pay a premium of 2 percent of the sum insured for summer crops, 1.5 percent of the sum insured for winter crops, and 5 percent for commercial or horticulture crops. The remaining part of the premiums is shared equally between national and provincial governments. This insurance is mandatory for farmers taking loans and

voluntary for other farmers (though as many as 35 percent of farmers have voluntarily enrolled in the program as of 2018). Out of the US\$7 billion in gross premium collected over almost two years, farmers contributed a share of US\$1.3 billion; in this same period, almost US\$5 billion in claims was paid to farmers. The program currently covers 30 percent of gross cropped area in India.

Box 4. Agricultural insurance

Benefits:

- Risk transfer from farmers to the market
- More sustainable agriculture and better protection of farmers' investments; continued flow of capital within the agricultural economy
- Reduced government exposure

Challenges:

- Need for risk assessment to ensure the product is technically sound
- Uncertain demand from farmers
- Uncertain ability of farmers to pay premium
- Uncertain capacity of market to offer the product

Sovereign Risk Pools

Sovereign risk pools are emerging as a cost-effective vehicle to help countries access rapid financing for disaster response. They offer countries a number of benefits: they (i) transfer risk to the private sector; (ii) smooth expenditure by the government; (iii) provide immediate liquidity post-disaster; (iv) use parametric triggers that can complement other triggers for contingent financing; (v) facilitate customizable coverage; (vi) provide technical assistance and risk information; and (vii) offer flexible payouts or payouts tied to existing programs.



Figure 5. Current sovereign risk pools. Source: World Bank.

Risk pools started to emerge over the last decade, and a growing number of countries across the world are joining these mechanisms (figure 5 shows the major existing pools). This session looked at existing risk pools as possible models for Central Asia, which is gradually strengthening its own platform for regional cooperation on disaster through the Center of Emergency Situations and Disaster Risk Reduction.

Establishing a successful risk pool depends on several conditions:

- Strong political will at the national level
- Galvanizing regional institution and/or event
- Donor support for capitalization of fund and/or premiums
- Built-in mechanisms to reduce risk and improve disaster response
- Potential to be considered part of a country's comprehensive strategy for financial protection
- Innovative, creative, and collaborative stakeholders
- Strong education component that aligns policy parameters with expectations for payouts



Mary Boyer, disaster risk management specialist, World Bank.
Photo: World Bank



Lucy Nyirenda, acting program coordinator and head of government services for East and Southern Africa, African Risk Capacity (ARC). Photo: World Bank

Sovereign risk pools offer a number of positive externalities. They foster policy dialogue on disaster risk management and risk ownership. They can help to maximize the impact of post-disaster funds by encouraging the development of disaster response plans. Pools can also create public goods, such as improved insurance literacy, strengthened institutional capacity, and more widely available disaster risk data and modeling. Sovereign risk pools also provide access to cost-effective insurance solutions and facilitate a shift toward proactive risk management.

workforce, contributes an average of 30 percent of GDP, and is at high risk from adverse natural events such as droughts, which can lead to serious food security stresses. At the same time, most economic losses in Africa are uninsured, leading to a significant protection gap.

African Risk Capacity (ARC): In Africa, agriculture employs about 60 percent of the

ARC was established in response to the need for cost-effective contingency funding to protect the region’s livelihoods and development gains. It is the first sovereign insurance pool in Africa, and the first in the world that links payouts to contingency plans. ARC is managed by its member states (33 member states; see figure 6), while a regulated commercial insurance company carries out ARC’s risk pooling, insurance, and other functions and transfers risk to markets. ARC allows insured member states to receive funds quickly in the aftermath of a natural disaster.



Figure 6. ARC member states. Source: ARC.

Currently, US\$400 million of drought risk is transferred to the pool, with US\$52 million in premiums paid by member states (95 percent of premiums are paid by the governments). As of 2019, insured governments had received US\$36 million in payouts, which assisted over 2.1 million people. Challenges facing ARC include a basis risk event (one in which losses do not trigger a payout), such as occurred in Malawi in October 2015–May 2016. ARC continues to improve its operations and products based on lessons learned.



Michael Spranger, chief risk management officer, Caribbean Catastrophe Risk Insurance Facility SPC (CCRIF). Photo: World Bank

Caribbean Catastrophe Risk Insurance Facility (CCRIF): The need for a regional Caribbean risk mechanism became clear after Hurricane Ivan in 2004, and CCRIF was founded three years later—the first sovereign risk pool.

CCRIF provides short-term funding via parametric catastrophe insurance to support relief in the immediate aftermath of a natural disaster, thereby closing the gap between immediate aid and long-term redevelopment. Its members include 19 Caribbean and 2 Central American governments.

Unlike indemnity insurance, CCRIF’s parametric insurance products make payments based on the intensity of an event and the amount of loss as calculated through a pre-agreed model. Today CCRIF offers insurance for earthquakes, tropical cyclones, and excess rainfall, and new products are being developed for other perils. Premiums paid depend on the specific product design and the country’s risk profile. Total payouts for the period from 2007 to October 2018 were almost US\$140 million (from 38 payouts to 13 member governments). All payouts were made within 14 days of the triggering event, and 58 percent of these payouts were used for immediate disaster response activities.

CCRIF offers members **important benefits:** diversification (from pooling of risk across a wide geographical area); improved market access and pricing (from pooling into a single reinsurance transaction); objectivity and transparency around transactions and rapid payouts (from parametric policy design); and avoidance of cross-subsidization (through pricing based on technical risk). The primary benefit to members is the relatively low cost of CCRIF coverage. According to the World Bank, insurance obtained through CCRIF could be as low as half the cost of coverage a member country could obtain on its own.

CCRIF also faces **several challenges:**

- Its products have high deductibles, so CCRIF covers only major catastrophe events that severely impact national economies.
- As with ARC, there is basis risk—the risk that an event will cause losses without triggering a payout.
- Parametric insurance is not fully understood, so clients expect their “insurance policy” to cover everything.
- Countries still retain a lot of risk - demonstrating an appropriate place for risk transfer takes a lot of time and effort.

Box 5. Sovereign risk pools

Benefits:

- Risk transfer from governments to the market
- Immediate liquidity after natural disasters; resources readily available for disaster response and recovery
- Improved financial planning
- Improved risk information

Challenges:

- Need for strong political will
- Need for regional collaboration
- Need for capitalization of the pool
- Need to manage the pool



Valery Petrov, director, Center of Emergency Situations and Disaster Risk Reduction (CESDRR). Photo: World Bank

Center of Emergency Situations and Disaster Risk Reduction (CESDRR): In Central Asia, ongoing regional collaboration in disaster risk management has led to the establishment of the CESDRR. This regional platform is financed by the governments of Kazakhstan and the Kyrgyz Republic, with other Central Asian and neighboring countries also taking part in its activities. A number of other bilateral arrangements are in place between the countries of Central Asia; one example is the agreement between the governments of Kazakhstan, the Kyrgyz Republic, and Uzbekistan on cooperation and collaboration in earthquake research and prediction of seismic hazard.

Strategic Frameworks of Disaster Risk Financing

A strategic disaster risk financing framework can help a country proactively manage disaster-related fiscal risks, protect itself against disasters of different frequencies and severities, and improve the efficiency of its post-disaster expenditures. In this session, representatives of Tajikistan and the Philippines shared their experiences in developing such frameworks.

In Tajikistan, where total disaster damage exceeded US\$589 million in 1997–2018, the government found itself allocating an increasing volume of resources to its contingency reserves to ensure liquidity for disaster response and recovery, while still struggling to ensure sufficient post-disaster financing. In response, it made the decision to develop a disaster risk financing strategy. A technical working group led by the Ministry of Finance is now pursuing this goal. This strategy has tentatively defined the following priorities:

- Strengthening disaster risk financing capacity
- Establishing a dedicated accruing contingency fund
- Improving information on disaster-related expenditures
- Improving insurance mechanisms
- Incentivizing risk reduction



Abdurahmon Halimzod, deputy minister of finance, Tajikistan. Photo: World Bank

The Philippines is located along the Pacific Ring of Fire and is extremely prone to several natural hazards, including typhoons (the country faces an average of 20 a year), earthquakes, and volcanoes. To address its vulnerability to disasters, the government of the Philippines prioritized access to disaster risk financing for communities under its National Disaster Risk Reduction and Management Plan for 2011–2028. It also made development of a disaster risk financing strategy a policy objective as part of entering into the second CAT-DDO with the World Bank.



Erwin D. Sta. Ana, deputy treasurer, Bureau of the Treasury, the Philippines. Photo: World Bank

This strategy was developed with three main objectives:

- **At national level:** To maintain the national government's fiscal health, necessary to support long-term rehabilitation and reconstruction needs
- **At local level:** To develop sustainable financing mechanisms for local government units, necessary to provide immediate liquidity at the onset of a disaster
- **At individual level:** To reduce the impact on the poorest and most vulnerable and prevent them from falling into a cycle of poverty, while also shielding the near-poor from slipping back into poverty

The strategy has led the government to adopt a comprehensive approach to public financial management of natural disasters. The approach is based on risk layering, which addresses disasters of different frequencies and severities with different instruments (figure 7). For instance, more frequent, smaller risks are retained through reserve funds and contingent financing, while rarer, larger risks are transferred via parametric insurance. Parametric insurance has been developed and provided for subnational governments; 25 out of 81 provinces are already insured. Indemnity insurance for public buildings and a catastrophe bond are also currently under preparation.

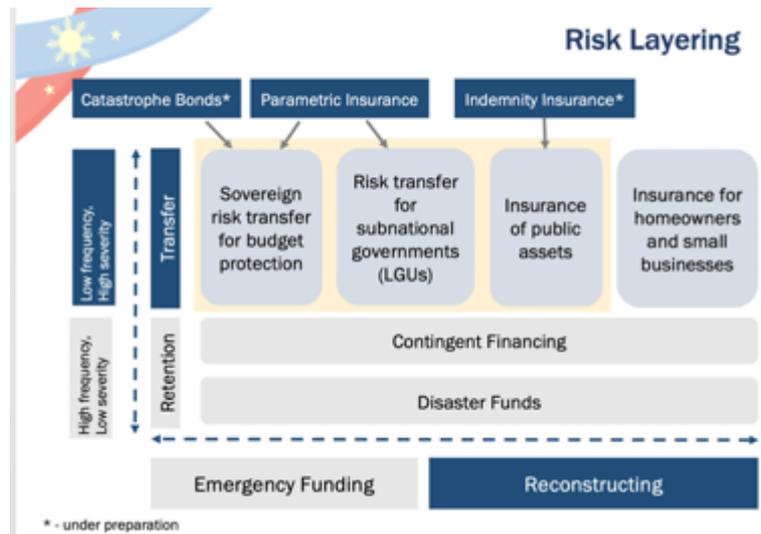


Figure 7. Risk layering approach in the Philippines. Source: Treasury of the Philippines

Box 6. Disaster risk financing strategy

Benefits:

- Comprehensive financial protection against natural disasters through a combination of different instruments and involvement of different institutions

Challenges:

- Need for political commitment
- Need to ensure that the strategy is implemented and financing sources are available
- Need to understand vulnerability and select correct priorities

Wrap-up Session

At the forum's wrap-up session, some takeaway messages were offered by Ko Takeuchi, senior disaster risk management specialist at the World Bank. "All five countries are exposed to various types of natural hazards that are causing huge impacts on countries and their populations. Within limited fiscal space, governments in Central Asia are trying to respond quickly to allow faster recovery and reduce negative impacts from disasters on the population and economy," he told the audience. He added that the World Bank is glad to see important efforts to strengthen financial resilience in the region.



Ko Takeuchi, senior disaster risk management specialist, World Bank.

While acknowledging that many innovative solutions are available, Ko Takeuchi listed a few key lessons that emerged from the forum:

- Disaster risk financing involves not only financial capacity but also operational capacity: the amount and source of money are important, but so are the ability to use it effectively and deliver it to those in need. The TCIP, for example, is aiming to improve its operational capacity, and Mozambique's reserve fund includes competitive bidding and pre-arranges rates for post-disaster activities before a disaster happens.
- Existing mechanisms for assessing disaster losses and for recording and tracking post-disaster expenditures should be better understood. This would help governments see how much they actually spend on natural disasters and what financing instruments are most effective.
- Collecting and analyzing risk data is essential because it allows governments to take risk-informed decisions regarding their financial protection against disasters. It requires strong coordinated efforts by ministries or committees of emergency situations and other technical agencies.
- Both individuals and policy makers need a better understanding of disaster risks, and of the benefits offered by different financing instruments, such as agricultural or disaster insurance. Further efforts in awareness raising are therefore important.
- Regional collaboration on disaster risk financing has been undertaken in some areas but is not yet present in Central Asia. The region could benefit from this approach.

Representatives of the five Central Asian countries agreed with these points and added some others: In Kazakhstan, an important first step is to understand what financing instruments are appropriate for the country and only then elaborate on appropriate measures for financial preparedness against natural hazards. The Kyrgyz Republic is particularly interested in further strengthening its agricultural insurance; it is also interested in risk pools and currently sees momentum to consolidate regional efforts on disaster risk financing. Additional efforts on disaster risk financing are important for Tajikistan, Turkmenistan, and Uzbekistan, and their representatives plan to bring the lessons learned about innovative instruments back to their countries.

Closing

Speaking at the closing session, Valery Petrov, director of CESDRR, called knowledge the forum's most important contribution. "Aspects of disaster insurance and overall financial preparedness to natural disasters are not well known in Central Asia," and the goal should be "to engage policy makers and other stakeholders on such an important agenda." He added that it is also critical to educate the population of the region so that they see disaster preparedness as an issue of the utmost importance.



Ede Jorge Ijjasz-Vasquez, senior director for the World Bank Group's Social, Urban, Rural and Resilience Global Practice.

Ede Jorge Ijjasz-Vasquez, senior director for the World Bank Group's Social, Urban, Rural and Resilience Global Practice, spoke of the risk faced by Central Asia, and of the World Bank's role in helping countries protect themselves from the financial impact of disasters. "Disasters are a major issue for Central Asia—not only big disasters, but also small recurrent disasters that affect vulnerable communities, ruthlessly draining the development gains of the region." The World Bank, he said, has been supporting the region with over US\$100 million in investments and technical assistance, and it will continue to offer its support. Just as important, he said, is that the World Bank "will

continue bringing world experience and best practices to help the countries of Central Asia"—in part by convening forums such as this one. He pointed to the region's "tremendous efforts" in disaster risk management and financial protection against disasters, and concluded: "There are many opportunities for scaling up these efforts to make Central Asia more resilient to natural disasters. If we all act decisively today, we can save more lives and assets in the future."

Program of the Forum

Day 1	Tuesday, February 26
9:00–9:30	Registration of the participants
9:30–10:00	Welcoming remarks and opening of the forum <ul style="list-style-type: none"> Mr. Ato Brown, Country Manager for Kazakhstan, World Bank Mr. Talgat Nurmagambetov, Deputy Chair of the Committee of Emergency Situations of the Ministry of the Interior, Kazakhstan
10:00–10:30	Session 1.1. Keynote presentation: Serbia 2014 floods and the aftermath <ul style="list-style-type: none"> Mr. Dušan Vujović, PhD, Professor of Economics at FEFA and a former Minister of Finance of Serbia
10:30–11:15	<i>Coffee break</i>
11:15–12:45	Session 1.2. Financial and economic impacts of natural disasters in the Central Asia region <ul style="list-style-type: none"> Mr. Talgat Nurmagambetov, Deputy Chair of the Committee of Emergency Situations of the Ministry of the Interior, Kazakhstan Mr. Kalys Akhmatov, Colonel, Deputy Minister of Emergency Situations, Kyrgyz Republic Mr. Rustam Shohiyon, First Deputy Chair of the Committee of Emergency Situations and Civil Defense, Tajikistan Mr. Shaberdi Eminov, Officer of the Civil Defense and Rescue Operations Unit of the Ministry of Defense, Turkmenistan Mr. Sherzod Mukhamedov, Head of the State Financial Statistics and Open Budget Division of the Main Department of State Budget, Ministry of Finance, Uzbekistan
12:45–13:45	<i>Lunch</i>
13:45–15:15	Session 1.3. Disaster risk finance: A very short introduction <ul style="list-style-type: none"> Mr. Luis Alton, Financial Sector Specialist, Disaster Risk Financing and Insurance Program, World Bank
15:15–15:45	<i>Coffee break</i>
15:45–17:15	Session 1.4. Reserve funds <ul style="list-style-type: none"> Mr. Salvador Perez, Disaster Risk Finance Consultant, World Bank Mr. Luis Alton, Financial Sector Specialist, Disaster Risk Financing and Insurance Program, World Bank
17:15–17:30	Closing of the day
17:30	<i>Reception</i>

Day 2	Wednesday, February 27
9:00–9:10	Introduction of the day's program and summary of key points from day 1
9:10–10:30	Session 2.1 Property disaster insurance <ul style="list-style-type: none"> Ms. Dilbar Khuseynova, Head of the Insurance Supervision Division, National Bank, Tajikistan Mr. Sanzhar Mukanbetov, Chair of State Service for Financial Market Regulation and Supervision, Kyrgyz Republic

	<ul style="list-style-type: none"> Mr. Bilal Türkmen, Deputy Secretary General, Turkish Catastrophe Insurance Pool (TCIP), Turkey
10:30–11:00	<i>Coffee break</i>
11:00–12:30	<p>Session 2.2. Agricultural insurance</p> <ul style="list-style-type: none"> Ms. Aizhan Dzhakshylykova, Head of Legal Department, Ministry of Agriculture, Food Industry and Melioration of the Kyrgyz Republic Mr. Azamat Hamiev, Deputy Director of Investment Policy Department, Ministry of Agriculture, Kazakhstan Ms. Elena Bryskova, Head of EUROPA Re Ltd. Representative Office in the Republic of Kazakhstan Mr. Ashish Kumar Bhutani, Joint Secretary to Government of India, Ministry of Agriculture, and Chief Executive Officer, Pradhan Mantri Fasal Bima Yojana (PMFBY)
12:30–13:30	<i>Lunch</i>
13:30–15:00	<p>Session 2.3. Sovereign risk pools</p> <ul style="list-style-type: none"> Ms. Mary Boyer, Disaster Risk Management Specialist, World Bank Ms. Lucy Nyirenda, Acting Program Coordinator and Head of Government Services for East and Southern Africa, African Risk Capacity (ARC) Mr. Michael Spranger, Chief Risk Management Officer, Caribbean Catastrophe Risk Insurance Facility SPC (CCRIF) Mr. Valery Petrov, Director, Center of Emergency Situations and Disaster Risk Reduction (CESDRR)
15:00–15:30	<i>Coffee break</i>
15:30–16:30	<p>Session 2.4. Developing comprehensive financial protection strategies</p> <ul style="list-style-type: none"> Mr. Abdurahmon Halimzod, Deputy Minister of Finance, Tajikistan Mr. Erwin D. Sta. Ana, Deputy Treasurer, Bureau of the Treasury, the Philippines
16:30–17:10	<p>Wrap-up and next steps for Central Asia</p> <ul style="list-style-type: none"> Mr. Ko Takeuchi, Senior Disaster Risk Management Specialist, World Bank Mr. Talgat Nurmagambetov, Deputy Chair of the Committee of Emergency Situations, Kazakhstan Mr. Sanzhar Mukanbetov, Head of State Service for Financial Market Regulation and Supervision, Kyrgyz Republic Mr. Abdurahmon Halimzod, Deputy Minister of Finance, Tajikistan Mr. Umyt Atayev, Head of Licensing, Financial Markets and Insurance Subunit within the Licensing and Licensing Control Unit, Ministry of Finance and Economy, Turkmenistan Mr. Abdufattokh Musaev, Deputy Head of Department of Financing Defense Complex, Law Enforcement, Ministry of Finance, Uzbekistan
17:10–17:40	<p>Closing of the forum</p> <ul style="list-style-type: none"> Mr. Valery Petrov, Director, Center of Emergency Situations and Disaster Risk Reduction (CESDRR) Mr. Ede Jorge Ijjasz-Vasquez, Senior Director for the World Bank Group's Social, Urban, Rural and Resilience Global Practice