

**UN ISDR
World Bank**

A Study of Catastrophe Risk Financing Options

**Mitigating the Adverse Financial Effects of Natural Hazards
on the Economies of Central Asia**

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Executive Summary

Central Asia's Risk Exposure to Natural Hazards

This study comprises a review of government post-disaster safety nets as well as those provided by the private insurance market in five countries of Central Asia, namely Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan.

As frequency and severity of major natural hazards and economic and insured losses caused by them have considerably increased world-wide, the countries of Central Asia have been no exception. Central Asia region is vulnerable to a number of disasters both natural hazards, such as earthquake, flood, landslide/mudslide/debris-flow, avalanche, strong-wind/ wind-storm, and fluctuations of extreme temperature.

A recent preliminary hazard risk assessment carried out by RMSI for 5 countries of Central Asia indicates that regional economic losses from natural disasters may range from \$1.2 to \$3.5 billion from events with return periods of 20 to 200 years, respectively. Most of these losses can be attributed to the risk of earthquake -the most catastrophic risk of all. While averages in the case of severe and infrequent catastrophic events can be misleading, they nevertheless confirm that with an economic average annual loss (AAL) of USD 186 million earthquake is the most dominant risk in the region; followed by flood (USD 52 million), landslide (USD 18 million), and drought (USD 6 million). Yet, in terms of the frequency flood was by far the most common peril, (1.35 occurrences per year); followed by earthquake (1.2) and landslide (1.0)¹.

The most catastrophic events in the region over the last 50 years are summarized in Table 1, which provides estimates of affected population and economic losses both in the original and in 2009 dollars. The table does not include the 1911 Almatu quake which is known for reducing the city to ruins but for which no reliable loss statistics are available.

Table 1: Recent notable disaster events in the Central Asia sub- region

Date	Type of disaster	Affected population	Economic Loss (USD million) (1)
26/04/1966	Tashkent earthquake, Uzbekistan	100,000	300/1965
13/10/1985	Mag. 5.9 earthquake, Tajikistan	8,080	200/394
19/08/1992	Mag. 7.3 Shalala-Abad earthquake, Kyrgyzstan	86,806	130/197
25/05/1992	Tajikistan flood	63,500	300/454
8/5/1993	Dushanbe region flood, Tajikistan	75,357	149/219
/06/2000	Central Asia region drought	3,600,000	107/132

Source: RMSI, 2009

Notes: (1) The column provides both the estimated economic losses reported at the time of the event and in 2009 terms.

¹ RMSI Report, 2009.Syntesis Report on CAC Disaster Risk Assessment.

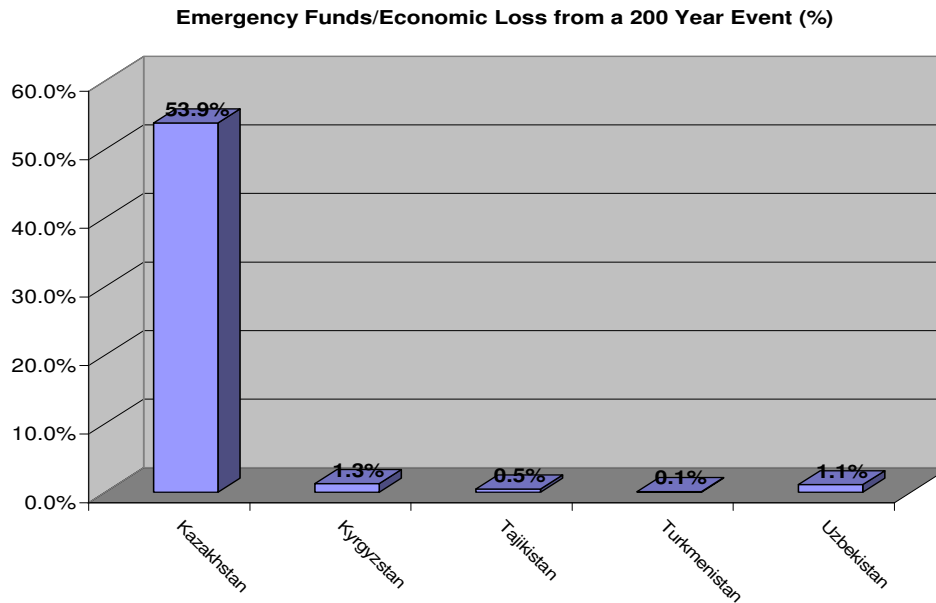
Yet, despite the growing economic losses from natural catastrophes in the region, so far over 99 percent of households and businesses remain uninsured against natural hazards while governments are fiscally ill-prepared to face economic losses from large catastrophic events.

While the social and economic effects of natural disasters on the national economies of Central Asian countries can be multi-faceted and complex, one can distinguish the following key manifestations:

- Adverse impacts of natural hazards on countries' fiscal stability and macro-economic performance. Natural disasters are increasingly affecting the ability of countries to satisfactorily implement national fiscal programs. With the growing frequency and severity of catastrophic events, it is becoming increasingly difficult to cover their economic costs from recurring country budgets. Even though every CA country, except for Turkmenistan, makes annual budget appropriations for emergency expenditures, often the actual budgetary outlays on such events are well in excess of budgeted amounts. To finance losses from large natural hazards, following natural disasters countries typically make additional emergency budgetary appropriations which are funded either by budgetary reallocations or by increasing budget deficits through borrowing. To indicate the magnitude of the problem, Figure 1 presents a ratio of economic losses from the recent modelled large catastrophic events in CA countries to the amount of annual budgetary appropriations for emergencies in 2008-9. As can be seen, the mismatch between the planned annual budgetary appropriations and the size of potential economic losses caused by large catastrophic events is rather striking. For instance, in all countries but Kazakhstan, it would take between 100-200 annual planned emergency budgetary allocations to cover the economic losses from a severe catastrophic event with a 200 year return period. But even the largest of all, the Kazakh budgetary emergency fund, can cover about 50 percent of damages from an earthquake with a return period of 200 years.
- Adverse social implications of natural disasters on the population. In the absence of effective post-disasters government social safety nets and the well functioning catastrophe insurance market, almost all homeowners and small businesses will have to rely on their own resources to recover from major catastrophic events. Given the low income levels, and the impaired country economic growth prospects due to the global economic crisis, any economic post-disaster economic recovery is likely to be long and painful, particularly for the poor.

Besides adversely affecting their fiscal stability, large natural catastrophes may also have profound implications for the CA countries' macro-economic performance and the overall global economic competitiveness.

Figure 1.



Fiscal Disaster Risk Financing Mechanisms at the Country Level

In all surveyed CA countries, national annual budgetary allocations for emergencies, no matter how small, are the only source of funding to deal with consequences of natural hazards. All national emergency funds are annual non-accruing funds, meaning that they maintain the same statutory size in budget percentage terms and cannot be accumulated or carried forward from one year to another.

In all survey CA countries, the emergency assistance aid can be made available to households, businesses, and local governments. None of the surveyed countries have a means testing requirement as a precondition for emergency assistance. Overall, there is no clear delineation of government and private sector liabilities when it comes to funding economic damages in the aftermath of a disaster.

Due to rather limited financial resources, disaster funds can only reimburse a small fraction of total losses sustained by people affected by disasters. These amounts vary from a few hundred dollars (in Kyrgyzstan, Uzbekistan, Turkmenistan and Tajikistan) to about a \$1000 in Kazakhstan.

The administrative process involved in mobilizing additional resources in cases of major disasters caused by the impact of natural hazards appears to be administratively cumbersome, lengthy and complex, and, as a result, rather time-consuming.

The Role of Private Catastrophe Insurance in Disaster Risk Financing in CA countries

Despite their severe exposure to natural hazards, catastrophe insurance coverage of assets belonging to individuals and small businesses in CA countries is virtually non-existent – of the order of 1 percent. As the P&C insurance industry in CA countries is still small and undeveloped, a very small percentage of population voluntarily buys insurance products. Property insurance in general and catastrophe insurance in particular are no exception. The study demonstrated that on average the number of households with a property insurance policy rarely exceeds 1 percent, although due to the local industry practices most those with property insurance coverage (over 90 percent) typically have catastrophe insurance protection.

Although the cost of catastrophe insurance coverage is rather low, around EUR 20-30, few homeowners buy it. One of the possible explanations may be that catastrophe covers cannot be bought separately in any CA market and have to be bundled with a homeowners policy. Once combined, the total costs of both covers can be well in excess of EUR 80-100 per year, which may create an affordability barrier for many households.

Low disposable incomes and the lack of trust among the general population to insurance companies is yet another factor hindering the development of the personal insurance lines market in the region. The poor claims payment record of many local insurers in combination with the still living on old memories of the Soviet insurance organizations such as Gosstrakh and Ingostrakh (which were perceived as a form of government tax agents in insurance disguise) presents a major obstacle to the expansion of the private lines market.

On the supply side, due to the small size of catastrophe insurance premium collected by insurers, some companies find it difficult to find reinsurance protection, while retaining more of catastrophe risk is not a preferred option. This may be a limiting factor that prevents companies from marketing catastrophe insurance coverage more aggressively.

While insurance regulators in CA lack the needed tools and expertise in understanding the true risk exposures of regulated companies to catastrophe risk, most of insurance companies do not have the necessary underwriting, actuarial and reinsurance skills to offer coverage against natural hazards. The majority of companies does not buy any reinsurance protection for their risk accumulations, while those who do buy reinsurance end up placing their covers with non-rated carriers² in Russia and Ukraine, which are ready to accept the risk at a very low rate. Most of reinsurance coverage is bought on the quota share basis. Very few companies buy any excess of loss coverage and only 2 companies acquired catastrophe excess of loss protection. To a certain extent this poor situation with reinsurance protection can be explained by the fact that in all Central Asian markets, except Kazakhstan, the premium rates charged by insurers for providing all-risk property coverage are grossly inadequate to cover the costs of risk. Only foreign-owned companies monitor their catastrophe risk accumulations and use modeled estimated of risk to determine their probable maximum loss from catastrophic events with different

² Non-rated are insurers are defined as those which do not have investment grade ratings from either of 4 internationally recognized rating companies such as S&P, Moody's, Fitch or A.M. Best.

return periods. Most of insurers in the market do not have any reliable quantitative estimates of their peak risk exposures (PML for given return periods), which makes them financially vulnerable to large catastrophic events.

The lack of insurance effective insurance supervision along with the cut-throat competition for new business resulted in very low premium rates for all-risk property coverage charged by Central Asian insurers. Although, on the surface, this may be good news to the consumers, in reality, inadequate premium rates mean that companies will not be able to afford placing reinsurance cover with credible reinsurance companies and hence would have to retain most if not all the risk themselves. This endangers their ability to pay claims in the case of a catastrophic event.

Conclusions and policy recommendations

Despite considerable risk exposure to natural disasters the existing risk financing mechanisms in the countries of Central Asia do not have the capacity to address the consequences of large catastrophic events. Hence, reducing the adverse financial impact of natural disasters on governments, businesses and households in the region must be regarded as an important economic and social priority at the national and regional level. Investing in development of market-based catastrophe risk transfer systems at both national and regional level will bring numerous economic and fiscal benefits. In the case of governments, national and regional risk transfer programs will help reduce the contingent fiscal liabilities of governments arising out of their excessive risk exposure to natural hazards, enable them to receive access to immediate liquidity in the aftermath of catastrophic events, and will help to mitigate the adverse impacts of natural hazards on fiscal stability and economic growth. In the case of households, access to affordable market-based catastrophe insurance will serve as an important financial safety net that will help millions of homeowners to protect their life-time savings embedded in the house equity and hence avoid financial ruin. For businesses, access to catastrophe insurance will reduce the adverse impacts of natural hazards on their earnings and hence will reduce the cost of borrowing and result in improved business valuations.

Several recommendations emerge from this study. They are intended to guide government policymakers in developing and applying national and regional disaster risk financing strategies, suggest ways in which Bank staff and managers can better address catastrophe risk financing in their dialogue with clients, and provide information and ideas that may be of value to other stakeholders, such as international donor organizations, NGOs, academics, and the general public.

Lessening the impact of natural disasters on government budgets. Numerous quakes that devastated the region in the past clearly demonstrated that large natural disasters can be very costly and can have major negative impacts on national economies and government budgets. Yet, no government in the region, except perhaps of Kazakhstan, has adequate fiscal capacity of its own to cope with financial consequences of large catastrophe events. But even in the case of Kazakhstan, despite its relatively large budgetary allocation

earmarked for national emergencies, the maximum post-disaster aid to victims of natural disasters is unlikely to exceed USD 1000 per household, which places the financial burden of housing reconstruction squarely on the shoulders of affected homeowners and businesses.

To address government fiscal exposure to natural disasters, countries may consider (i) putting in place stand-by ex-ante disaster risk financing mechanisms, which would grant them immediate access to liquidity in the case of natural disasters. Stand-by credit facilities, also known as contingent capital, can now be obtained from both the IBRD and ADB.

Reducing the financial vulnerability of homeowners and SMEs to natural hazards.

Despite major loss potentials from natural disasters, the study documented an almost non-existent level of catastrophe insurance coverage among homeowners and SMEs in Central Asian countries.

In this context, the countries of Central Asia should consider instituting a regional catastrophe insurance pool that would act as a regional aggregator of catastrophe risk and help governments access the global reinsurance market on better pricing terms. The risk pooling arrangement for the Central Asian countries can be modeled after the regional catastrophe insurance facility for Southeastern and Central Europe– the SECE CRIF – which is currently being developed by the World Bank, the UN ISDR and the Regional Cooperation Council for SEE countries.

It may also be advisable for the countries of region with larger-size economies – such as Kazakhstan and Uzbekistan - to consider creating national catastrophe insurance pools which can provide efficiently priced standalone catastrophe insurance to homeowners and small business owners. As has been demonstrated by the international experience, such programs can provide highly affordable coverage by realizing the benefits of country-wide risk diversification, economies of scale and the ability to obtain better pricing terms from the global reinsurance market. The first country wide catastrophe risk pool in an emerging market known as the Turkish Catastrophe Insurance Pool (TCIP) has been pioneered and successfully launched with Bank's assistance by Turkey in 2000. The work on a similar program in Romania has reached a fairly advanced stage.

A relatively large size of the Kazakhstan economy and the more advanced state of development of its insurance market may also provide for the development of a regional catastrophe insurance scheme on the basis of the national Kazakh catastrophe insurance program. Such a program can be then extended to other countries of the region. Unfortunately, the analysis of the insurance markets in other three countries of the region suggests that the creation of stand-alone individual country catastrophe insurance pools is unlikely to be economically and technically feasible

CHAPTER I

INTRODUCTION

The Impact of Natural Catastrophes on Central Asia

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Yet, despite the growing economic losses from natural catastrophes in the region, so far less than 1 percent of households and businesses remained uninsured against natural hazards while governments remain fiscally ill-prepared to face economic losses from large catastrophic events.

Objectives, scope and methodology of the study

The main objectives of the study have been two-fold. On the one hand, the study attempted to establish the extent of financial vulnerability of governments and households to natural hazards in ten countries of Central Asia by examining:

- The financial capacity of individual Central Asian countries to cover the costs of disaster relief, reconstruction and recovery efforts from their own fiscal resources.
- The extent of catastrophe insurance coverage provided by the private insurance industry in the region as well as the technical capacity of country insurance industries to host national catastrophe insurance schemes.

³ RMSI Report, 2009.Syntesis Report on CAC Disaster Risk Assessment.

Besides documenting the current state of government and market-based safety nets for homeowners and SMEs affected by natural disasters, the study also suggests a range of practical solutions and policy recommendations with the view of reducing the financial vulnerability of the region to natural disasters.

The study is intended for four principal audiences: government officials in Central Asian countries; World Bank staff involved in disaster risk financing and reconstruction projects; the international development community as well as the private insurance and reinsurance industry.

This Report was prepared based on a series of written surveys that were followed by interviews with key government officials, government experts and insurers in Central Asian countries.

The structure of the report is as follows. Chapter I is an Introduction. Chapter II examines the fiscal capacity of Central Asian economies to cope on their own with large catastrophic events. Chapter III presents an overview of the state of catastrophe insurance markets in Central Asia. Chapter VI presents the main findings and policy recommendations of the study.

Chapter II

A Survey of Catastrophe Insurance Markets in Central Asia⁴

Central Asia's Risk Exposure to Natural Hazards

Central Asia is highly vulnerable to natural disasters such as earthquake, flood, landslide/mudslide/debris-flow, avalanche, strong-wind/ wind-storm, extreme temperature. The most catastrophic events in the region over the last 50 years are summarized in Table 1, which provides estimates of affected population and economic losses both in the original and in 2009 dollars.

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Source: RMSI, 2009

Notes: (1) The column provides both the estimated economic losses reported at the time of the event and in 2009 terms.

A recent hazard risk assessment for the region carried out by the RMSI⁵ indicates that with an economic average annual loss (AAL) estimated at USD 186 million, earthquakes however are the dominant risk in Central Asia followed by flood (USD 52 million), landslide (USD 18 million), and drought (USD 6 million). If one were to look at the probable maximum economic loss potentials from natural disasters with different return periods, the loss statistics will be quite staggering. For example, as shown in Table 2, the economic loss potential from a major catastrophic event (such as a big earthquake) with the frequency of 0.5 percent is estimated at USD 3,489 million, or 2.39% of regional GDP.

Table 2. Economic loss potential from catastrophe events on the regional economy

Economic Loss Potential (1988-2007)		
<i>Annual exceedance probability</i>	<i>Economic loss (USD million)</i>	<i>Percentage to GDP (2007)</i>
0.5%	3,489	2.39
5.0%	1,192	0.81
20.0%	401	0.27

Source: RMSI, 2009

Notes: The estimates significantly underestimate the severity of potential losses as they are based on only 25 years of observations.

⁴ In this Report we cover all 5 countries of Central Asia, which include Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan.

⁵Synthesis Report on CAC Disaster Risk Assessment. RMSI, 2009

Over the last 50 plus years, earthquakes also caused the largest number of deaths (6,683)⁶; followed by flood (1,512) and landslide (700). Drought affected the largest population (70 percent of total affected population in the region); followed by flood (19 percent) and earthquake (6 percent). Flood has the highest frequency (1.35 per year); followed by earthquake (1.2) and landslide (1.0).

Table 3 demonstrates that all 4 out of 5 countries of the region are particularly financially vulnerable to natural hazards and all 5 stand to sustain very sizeable monetary losses in the case of catastrophic events. A comparison of economic loss potentials in the countries of Central Asia is presented in Table 1 below.

Table 1: Comparison of economic losses in countries of Central Asia

Country	Average Annual Loss (AAL) USD Millions	Economic Loss (USD Millions)			Percent of GDP		
		Annual exceedance probability			Annual exceedance probability		
		0.5%	5%	20%	0.5%	5%	20%
Kazakhstan	63	1,136	348	100	1.09	0.34	0.1
Kyrgyzstan	11	160	49	15	4.57	1.4	0.42
Tajikistan	79	776	355	139	20.92	9.56	3.75
Turkmenistan	79	1,564	433	115	12.1	3.35	0.89
Uzbekistan	92	2,128	623	177	9.5	2.8	0.8
Central Asia	264	3,489	1,192	401	2.39	0.81	0.27

Source: RMSI, 2009

Notes: Loss estimates assume a return period of 200 years or 0.5

As can be seen from Table 1, if one were to rank the countries of Central Asia in terms of their financial vulnerability to natural disasters measured by the percentage of GDP lost from a catastrophic event with a 200 year return period (0.5% probability), Tajikistan fares the worst (20.92%), followed by Turkmenistan (12.1%), Uzbekistan (9.5%) and Kyrgyzstan (4.57%). Although Kazakhstan appears to be the least financially exposed (1.09%) to natural disasters, in our view, the RMSI loss estimate considerably underestimates the overall risk exposure in Almatu, which over the last 10 years has developed into a major regional commercial center, with billions of dollars worth of new commercial and residential construction, frequently of poor quality, added to the existing city building stock.

Risk Policy Coverage.

The non-life insurance industry in Central Asia countries is still very small and undeveloped. Currently, a very small percentage of population regularly buys insurance products. Property insurance in general and catastrophe insurance in particular are no

⁶ The figure accounts for only a small fraction of lives lost during the 1966 Tashkent Earthquake, as the true figure was never revealed by the Soviet authorities.

exception. Despite the fact, that in all countries of the region except Kazakhstan, the premium rates charged by insurance companies appear grossly insufficient to cover the technical cost of risk, few homeowners buy it. The survey of regional insurers demonstrated that on average the number of households with homeowners insurance across the region rarely exceeds 1 percent, with Kazakhstan being a notable exception where the level of insurance penetration is about 2 percent.

Natural Hazards Covered.

In all Central Asia countries, insurers offer an all-risk homeowners policy which covers property damage to private dwellings from almost all FLEXA (e.g. fire, lightning, explosion, aviation) and natural perils (earthquake, flood, land-slide, windstorm, avalanche, hail, etc.) without exception. While in principle in certain country markets buyers of the FLEXA cover may choose not to buy cover for natural hazards, in practice nobody declines it as insurers do not price the risks of fire and natural disasters separately. Small businesses, industrial and commercial customers are covered by a similar fire and allied perils policy, but there very few cases when such policies are bought.

The scope of coverage of a special endorsement for catastrophe perils includes damages to buildings only. Large businesses can also obtain a business interruption policy (BI) for both FLEXA and natural perils.

Catastrophe Insurance Penetration

Despite the fact that natural perils are covered under homeowners policies available from local insurers in all Central Asian markets, very few businesses and homeowners buy it. The situation is helped somewhat by the fact that local mortgage lenders require catastrophe insurance coverage as a loan condition. As a result, most of property insurance policies sold in the region is sold to home buyers borrowing from banks affiliated with insurance companies. However, even before the current financial crisis, the percentage of housing stock financed by mortgages was extremely small – under 1 percent – which served as a major constraint on the development of the local property insurance market. Recently due to the global financial crisis, mortgage lending has virtually come to a halt in Central Asia as banks concerned with plummeting property values and the ability to refinance their own liabilities stopped lending all together.

Such a limited demand for catastrophe insurance in Central can be explained by rather low incomes as well as insufficient risk awareness of the population. Expectation of government assistance in case of a disaster and inherent distrust of insurance companies (which is often reinforced by the limited scope of disaster insurance coverage available) are among other possible explanations of the low demand for catastrophe covers.

One other possible explanation may be that catastrophe covers cannot be bought separately in any Central Asian market and have to be bundled with a homeowners policy. Once combined, the total costs of both covers can be well in excess of USD 250 per year, which may create an affordability barrier for many households.

Another reason for the low demand for insurance stems from the poor claims payment record of most insurers and the lack of trust on the part of the population in the ability of insurers to pay claims in case of a major catastrophic event. Unfortunately, these fears are not groundless. Due to the insufficient premium charged by local insurers for property coverage, they find it difficult to afford reinsurance protection, which leaves them with no choice, but to fully retain the catastrophe risk or reinsure only a small part of the risk with low rated insurers from the neighboring CIS countries.

Insured Limits

Insured policy limits for natural perils are typically the same as the sum insured under the underlying basic property coverage. The limits of coverage however may vary significantly from one country to another. On average, however, they range from USD 25,000-200,000 for personal dwellings.

Deductibles

As deductibles are not very popular with individuals and corporations in Central Asian countries, they rarely exceed 2 percent of sum insured. Many companies do not have any deductibles at all for their all-risk property covers. In Kazakhstan, however, insurers do require a minimum deductible of 5 percent for natural perils earthquake and offer a 20 percent premium discount for a voluntary deductible of 7 percent of the sum insured and a 30 percent discount for a deductible of 10 percent.

Premium rates

The pricing of all-risk property covers varies significantly throughout the region based on the local market conditions and the pricing sophistication of insurers. The premiums for an all-inclusive property coverage range from 0.05% to 0.35%. The variation in the rates is mainly due to the level of competition in each market rather than a reflection of the key risk factors such as earthquake zone, soil conditions, building structure and year of construction. In some countries however insurers refuse to insure mud-made dwellings which are most vulnerable to earthquakes.

Terms of coverage

The terms of coverage for catastrophic perils offered by the local market appear rather generous as insurance policies cover all risks and deductibles are either low or non-existent. The policies offer coverage for damage to the building structure, and less often contents.

Indemnification basis

In covering catastrophic perils, insurers are often faced with the problem of underinsurance arising of policyholders buying less coverage than the replacement cost of their property. To deal with this problem, insurers include underinsurance penalties into the terms and conditions of the policy which have the effect of reducing the amount

of indemnity paid in the aftermath of a disaster proportionately to the rate of underinsurance.⁷ However, in Central Asia, most insurers chose to replace the underinsurance penalty with the first lost cover that offers the insured insurance coverage up to the sum insured without any penalty in case of underinsurance. As most insurance policies are sold in conjunction with mortgage loans, indemnification under insurance policies is designed to protect mortgage lenders against the loss or damage to their collateral that may be caused by fires or natural disasters.

Claims settlement

In Central Asia, loss adjustment is typically carried out by loss adjustors from insurance companies, although for complex and large commercial/industrial losses external professional loss adjusters may be engaged as well. Reinsurers may also be involved if losses exceed a pre-agreed value.

In most countries of the region, claim settlement is typically done either on the replacement cost or residual value basis. Compared to the first approach, the residual value approach provides for the reduction in indemnity payment by the amount of accrued depreciation. Under the last approach, loss adjusters typically will estimate the real damage to the property and then compare it with the sum insured. The starting value is the book value of the damaged property from which they would deduct the accrued depreciation to arrive at the remaining reimbursable value.

Risk Management

In virtually all Central Asia markets, except Kazakhstan, insurance companies do not have the necessary risk management skills and expertise to adequately manage their catastrophic risk. Although the level of insurance penetration is still small, catastrophe risk accumulations of the local companies can be quite significant relative to their capital base. Yet, most local companies retain all catastrophe risk for the residential property business and reinsure only large industrial/commercial risks on a facultative basis. Only in Kazakhstan, the surveyed companies reported that they were protecting themselves with surplus treaties and CAT XL reinsurance programs. But even in Kazakhstan, companies readily acknowledged that the amount of reinsurance coverage they place is likely to be insufficient to protect them against a major catastrophic event.

Local insurers and reinsurers typically do not follow any accumulation control procedures, despite the fact that most of their property premium comes from large cities located in highly seismic areas of the region. This lack of essential risk management procedures can be explained by the lack of risk management and reinsurance skills in the local markets and by the very limited use of highly rated foreign reinsurers, which are known for their reporting requirements of catastrophe risk accumulations. Needless to say, that most of the surveyed insurers did not have any quantitative estimates of their probable maximum loss potentials (for any given return period) as probabilistic commercial catastrophe risk models for natural hazards in the region are yet to be

⁷ In the insurance industry, this approach is known as a rule of averaging.

created. The situation is somewhat better in Kazakhstan, where more advanced insurers tend to rely on the PML estimates provided by the London market brokers.

Insurance Laws and Regulations

None of the countries of the region have any specific requirements for pricing, reserving, reinsuring or reporting catastrophe risk underwritten by local insurers. Although currently in all 5 countries property insurance in general and catastrophe insurance in particular are voluntary classes of insurance, Uzbekistan, Kyrgyzstan and Tajikistan are in the process of developing laws on the mandatory catastrophe insurance. In the case of Tajikistan, the draft law calls for mandatory insurance of all building structures against all possible perils, including fire and catastrophic risk, at a rather hefty rate of 1% (vs. 0.3-0.4% estimated technical rate) of sum insured. Although the law will considerably increase the level of catastrophe insurance penetration for residential consumers, it will undoubtedly be perceived by the population as another tax. In the absence of a sensible reinsurance strategy by the Tajiksigurta, the only company allowed to operate in the market, in the case of a major earthquake the Tajik government is likely to be called upon to make good on the company's shortfall to honor all insurance claims.

Product Distribution Channels

In Central Asia, to distribute their products, insurers use mainly their own sales force, and often tied agents. Distribution through insurance brokers or independent agents is virtually unknown.

Tajikistan

Insurance market overview

With total gross premiums of USD 28.56mn in 2007, Tajikistan is one of the smallest of the Central Asian CIS insurance markets. Only the neighboring Kyrgyzstan, which saw premiums significantly decline in 2005 after a revolution and change of government, is a smaller market in premium income terms. The market however has been growing rapidly over the last 5 years. In 2004, for instance, total gross premiums were only USD 4.9mn. Only in 2007, the market growth rate was about 27 percent. This growth rate is particularly impressive given the fact that the country GNP is among the lowest in the region and that most of the insurance premium written in the market (81.7%) comes from voluntary business lines. In 2007, voluntary property insurance premium accounted for 77.2 percent.

In 2007, the overall composition of insurance premium in the country was as follows.

Class	Premium		Market share
	TJS mn	USD mn	%
Life	3.3	0.96	3.4
Personal	3.0	0.87	3.1
Liabilities	0.9	0.26	0.9
Property	73.3	21.30	74.5
Compulsory	17.8	5.17	18.1
Total	98.3	28.56	100.0

Source: Insurance Supervisor

The market presently consists of 15 companies, of which two are state-owned and 13 are privately-owned. Of the 13 privately-owned insurance companies, only one has foreign participation in equity. Of the total 15 companies licensed in 2007, only 13 appear to have been active. In international terms, all companies are small, and few are capitalized beyond the basic regulatory minimum requirement of TJS 100,000 (USD 29,240). In fact it is quite likely that given the nascent stage of insurance regulations some companies are not in compliance even with this very low threshold.

It appears that the market is profitable, with paid loss ratios generally not exceeding about 10 percent.

Locally-incorporated insurers are allowed to underwrite both general and life business within the same company and this is unlikely to change for the foreseeable future. Of the 15 registered companies in 2007, six were essentially composite, writing both life and non-life lines in the same company.

The insurance market is dominated by the larger of the two state companies, Tajik Sugurta, which is the successor to Tajik Gosstrakh, and a more recently formed private insurer - Orient Insurance. Tajik Sugurta enjoys, together with the other state company, Tajik Sarmoya, a legal monopoly (duopoly) of all the compulsory insurances, but the

position of Tajik Sugorta, erstwhile the market leader, has been eclipsed by Orien, which had a market share in 2007 of over 67%. The draft new insurance law presently before parliament in 2008 is thought to include provision for both privatization of the state companies and a reduction in the number of compulsory classes.

There are no brokers operating in Tajikistan and distribution of insurance products is therefore conducted either on a direct basis by company employees or through agents who are paid a commission for producing business. Given the size of the local market, it seems unlikely that any brokers will be established in the foreseeable future. The two state companies have branches throughout the country. Tajik Sugorta has 70 branch offices and 560 agents. The private insurers obtain almost all their business on a direct basis.

Review of natural hazards insurance

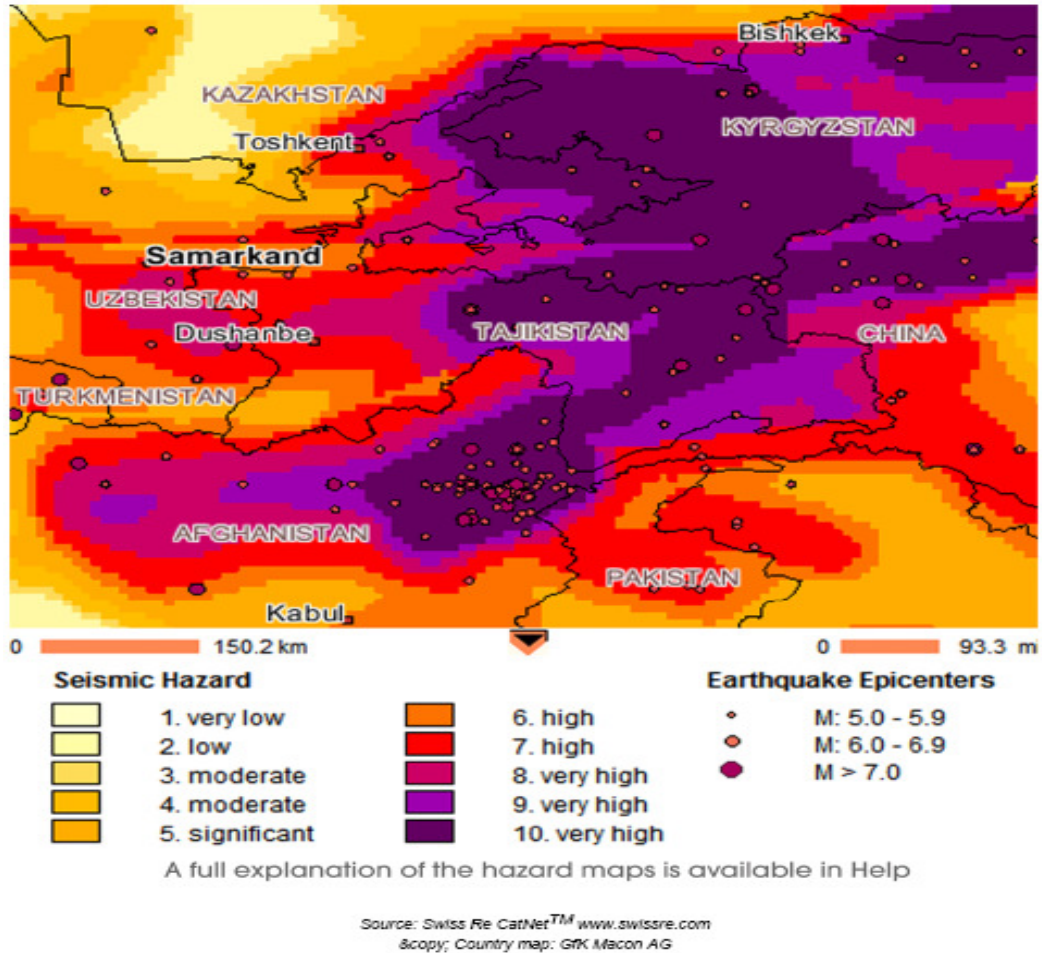
Country earthquake risk profile

As shown in Figure 1, in Central Asia the earthquake hazard is similar to that of California. As a grim reminder of this risk, Dushanbe, the country's capital and largest city, was last seriously damaged by an earthquake in 1907, which measured 7.4 on the Richter scale. It is estimated that if a similar size earthquake were to occur today, it would result in 55,000 fatalities and over a USD1 billion economic loss. Economic loss from a severe earthquake could amount to USD 1bn. Almaty, the capital of Kazakhstan, which is in the same risk zone as Dushanbe, has twice been destroyed by earthquake in the last 100 years, and Tashkent, the capital of Uzbekistan, which is also in the same risk zone, was completely destroyed in an earthquake in 1966. There was a further severe earthquake in Tajikistan in 1911 and in an average year there are upwards of 4,000 tremors.

During the 1911 earthquake, the side of a mountain fell into a valley, creating Lake Sarez, which now contains 16 cubic kilometers of water. This natural dam now sits 3,300 meters up in the Pamir Mountains above the homes of five million people and threatens to come crashing down in another serious quake. With a return cycle of 80 to 120 years, another serious earthquake is expected at any time.

Because design and construction practices were centralized in the former Soviet Union, four-fifths of all pre-cast concrete residential buildings constructed between 1960 and 1990 can be placed into one of only six structural types. Only one of these types is considered satisfactory due to its seismic-resistant design and its relative insensitivity to construction quality.

Figure I. Earthquake risk profile of Central Asia



While the earthquake building code from the Soviet period is considered to be generally adequate by experts, the problem is mainly in its poor enforcement which resulted in the poor quality of construction. Since independence, there has been some improvement in construction quality, but generally only where international enterprises are concerned.

Natural hazards insurance

Currently, the local insurance market offers an all-risk inclusive property insurance policy, which besides traditional FLEXA perils also offers coverage against almost all known types of natural disasters. While in theory, homeowners can exclude natural perils from their coverage, in practice there are no stand-alone catastrophe insurance policies in the market today.

The scope of coverage under the homeowners policies include damage to structures and internal fixtures as well as house contents.

Despite the fact that the local property insurance market has been growing fast over the last few years, currently there are less than 12000 individual homeowners' policies in-force, which is well under 1 percent of the existing housing stock.

Most property policies are typically issued as the first-loss policies with a small deductible of about 2%. The sum insured for natural hazards is the same as for other perils and is typically established at the time of policy issuance. In the case of loss, claims are settled by insurance companies own loss adjustors.

While the premium rates are set by the market rather than by actuarial inputs (which are virtually non-existent), the market appears to charge slightly higher rates in more seismically prone areas of the country. The average premium rates charged by the market (well under 1 per mille) appear to be well below the technical price of FLEXA risk and natural hazards. This mispricing of risk also suggests that most local insurers do not collect enough premiums to buy reinsurance protection from reputable reinsurers.

Virtually, all policies are sold through companies' own sale force.

Since most of policies are sold in Dushanbe, which besides being the most affluent city of the country is also an area of high seismic hazard, companies have considerable risk accumulations. Yet, none of the surveyed insurance companies monitored its earthquake risk accumulations or bought reinsurance for these catastrophic risk exposures. The companies reported 100 percent risk retention of all risk written for their residential property portfolio. With an average value of the local dwelling estimated at about USD 30,000 the overall market risk exposure to the earthquake risk amounts to USD3.6 billion. By applying the estimated California PML (for a 100 year quake) of 10 percent to this risk exposure, we arrive at the potential loss of about \$360 million – an amount which more than hundred times exceeds the capitalization of the local insurance market. This schematic calculation clearly illustrates the risk management challenges faced by the Tajik market.

Recently, the government prepared a draft law on the mandatory insurance of all dwellings in the country against the risk of fire and natural hazards. The premium rate for this all-risk cover is proposed to be set at 1 percent of property value, which is very high by any international standard and particularly in the country with the level of income of Tajikistan. One must also point out that while mandatory insurance against natural perils is quite common world-wide, not a single country in the world has a mandatory property insurance requirement. Among the other most striking features of the law is that insurers are not obligated to pay claims in case of an insured loss, whereas homeowners are obligated to pay the premium.

Turkmenistan

Insurance Market Overview

After the collapse of the Soviet Union in 1991, the insurance market was partially opened to competition, and both state and private companies were operating. For a short time Turkmen Gosstrakh was partially privatized, but in 1997 was taken back into full state ownership. Throughout the 1990s Turkmen Gosstrakh was still the major insurer writing some 70% of all premiums. This company had a monopoly of all state business and wrote the majority of compulsory classes as well as some other business. In 2000, the government cancelled the licenses of all the private insurers operating in the market, and effectively renationalized the insurance industry in Turkmenistan. The only insurer now operating is Turkmen Gosstrakh. This resulted in the closure of the sector of the market which was most effective in persuading people to insure and which was responsible for the development of western style insurance products. Market penetration declined immediately after renationalization since Turkmen Gosstrakh does not have the entrepreneurial spirit that the private insurers had. In 2008, the gross premium written in the country was USD 30 million, which makes it among the smallest markets in Central Asia. The concept of private insurance is by-and-large unknown to the majority of the population. However, it appears that very little changed since then as almost all personal property remains uninsured and there is very little personal insurance. Most population views insurance with suspicion and because of low income lacks the ability to pay premiums.

Review of natural hazards insurance

Country hazard risk profile

In 1948, Ashgabat, the capital city, was completely destroyed by an earthquake estimated to measure 9 to 10 on the Richter scale. The whole city was affected: buildings collapsed and roads and utilities were completely destroyed. The city was completely rebuilt from the rubble. Many thousands of people were killed. There are no details of the economic loss, since no buildings were insured. In today's terms, the loss would have amounted to billions of US Dollars. The Kopetdag mountain range which runs along the border with Iran in the south of the country is known to be prone to seismic movement, and another serious earthquake could occur at any time.

When Ashgabat was rebuilt after the 1948 earthquake, the buildings were reputed to be constructed to earthquake resistant standards, but it is not known if the standards applied would be capable of resisting a similar occurrence to the 1948 event.

Because design and construction practices were centralized in the former Soviet Union, four-fifths of all modern pre-cast concrete residential buildings can be placed into one of

only six structural types. Only one of these types is considered satisfactory due to its seismic-resistant design and its relative insensitivity to construction quality. It has been estimated that in the case of a major earthquake in Turkmenistan, three types of construction are liable to partial or total collapse, two types to moderate to heavy damage and only one type of construction to slight to moderate damage. Similarly, it is possible to estimate that the fatality rate will be 0.5% for a MSK VIII earthquake and 2% for serious injuries. In an MSK IX earthquake, 100,000 serious injuries and 25,000 deaths could be expected in Ashgabat, the city of 500,000 people, this affecting approximately 20% of the total population of the capital.

The two seismic institutes in Ashgabat have been closed since the end of the Soviet Union, and unfortunately there is very little information on return period available. The 1996 GeoHazards seminar held in Kazakhstan estimated that there was a 40% chance of a serious earthquake (MSK IX intensity) occurring near to one of the Central Asian republic capitals in the next 20 years.

Natural hazards insurance

Similar to other Central Asian markets, Turkmen Gosstrakh offers an all-risk homeowners policy, which besides FLEXA perils covers natural hazards as well. It is company policy not to cover poorly built structures. The all-risk insurance policy covers damage to dwellings and their contents. The policy provides for the same insured limit for both FLEXA and natural hazards coverage. The deductibles appear to be very insignificant, close to zero.

The Turkmen market differs from most of the neighboring countries in one important aspect though. It appears that due to its monopoly power the Turkmen Gosstrakh is able to charge realistic premium rates on its residential insurance products, e.g. 0.3-0.4 percent.

The insurance policy sold by Turkmen Gosstrakh is a first-loss loss type product, with the indicated sum insured indicated in the policy being the maximum amount of indemnification payable.

The company sells its products through its sales force, tied agents and state-owned banks. Turkmen Gosstrakh underwrites without reinsurance protection for all personal lines, smaller risks and compulsory classes, relying on its capital of USD 15mn to pay any claims that may arise. Large risks, including the aviation business, are placed through large international reinsurance brokers predominantly with large European reinsurers such as Munich Re and Swiss Re. No domestic brokers are allowed by the local insurance regulations.

Similar to most of insurers in the region, the company does not monitor its catastrophe risk accumulations and has no actuarial skills to price catastrophe risk properly. Despite the relatively high premiums charged by Turkmen Gosstrakh and relatively low level of

property insurance penetration (about 1 percent of dwellings), the company is likely to struggle with the payment of claims in case of a major earthquake.

Kyrgyzstan

Insurance Market Overview

In 2007, Kyrgyz original gross market premium volumes, all classes direct, were KGS 187.6mn (USD 5.03mn), which makes it the smallest and least developed of the Central Asian CIS insurance markets. In 2007 per capita insurance spending in Kyrgyzstan was under USD 1 compared to USD 2 in the neighboring Uzbekistan or USD 200 in Russia. Total gross premiums grew, though, in 2007, to KGS 196.5mn (USD 5.27), out of which non-life insurance premium was USD 4.1, nominally growth of about 30%, but in real terms, though, and allowing for double counting of 5% real growth was about 25%. In 2008, there were 18 registered insurance companies operating in the market with the overall capitalization of USD 8 million. Seven of local companies have foreign participation.

Although property insurance accounts for over 60 percent of total gross premium written, very few houses are insured. According to the local insurance regulator, in 2008, there were 10,672 individual property insurance policies, all with catastrophe insurance coverage. This is well under 1 percent of the total housing stock.

Such a low level of insurance penetration is mainly due to low incomes of the population, general lack of insurance awareness, and because insurance companies are widely regarded with suspicion, often rightly because of their poor claims payment track record.

International companies, embassies and aid operations are the only organizations which routinely insure in the market, and there is little sign of insurance penetration amongst the local community. As shown in Table 1 below Kyrgyzstan has the lowest per capita spending on non-life insurance as a percentage of GDP and in absolute dollar terms among all the countries of the region. One of the main reasons explaining such a low level of insurance consumption, besides the low incomes of the population, is the fact that Kyrgyzstan is among the few remaining countries in the world which does not have a mandatory MTPL insurance coverage.

Table 1. Insurance premium consumption in Central Asia and Russia

	GDP (%)	per capita (USD)
Kyrgyzstan	0.11	0.78
Uzbekistan	0.32	2.14
Russia	1.10	99.28
Kazakhstan†	1.06	55.63
Tajikistan	0.77	4.24
Turkmenistan	0.23	6.04

Source: AXCO reports, author's estimates

As the market does not have a formal solvency margin requirement, there is a strong competition in rates, which are rather low by international standards. The market nevertheless appears to be profitable. The majority of insurance business transacted still relates to the requirements of international companies which operate in Kyrgyzstan and to embassies and aid organizations.

The market suffers from the lack of professional insurance expertise, particularly in the area of actuarial and underwriting skills. The lack of appropriate IT is also a problem. Most companies have standard accounting packages, but few have sophisticated underwriting programs. At the most basic level, tying up a reported claim to its original policy can sometimes be a challenge, requiring a search through wads of paper before the policy is located. Having identified the policy there is no guarantee that the claim will be put back to its appropriate underwriting year.

Kyrgyzinstrakh, the largest company in the market with a 30 percent market share, has paid up capital of KGS 10mn (USD 275,482) and has reserves of a further KGS 4mn (USD 110,193). The company is now a subsidiary of the Ingosstrakh Group of Russia and writes the aviation account in Kyrgyzstan, together with a property and liability account. This company should not be confused with Rosstrakh-Kyrgyzstan, which is a subsidiary of Rosstrakh. Nor should it be confused with Kyrgyzstan Insurance, which was previously the Kyrgyz Gosstrakh.

Review of natural hazards insurance market

Country risk profile

Kyrgyzstan is vulnerable to a number of disasters due to natural hazards such as earthquake, landslide, avalanche and flood.

With an average economic loss (AAL) of USD 8 million, earthquake is the dominant risk in Kyrgyzstan; followed by landslide (USD 2.6 million). As shown in Table 2, the 20 year return period loss for all hazards is USD 49 million (1.4 percent of GDP); while the 200 year return period loss is USD 160 million (4.57 percent of GDP). The main seismic risk area is the Fergana Valley, which runs into the neighboring Uzbekistan.

Table 2. Economic losses from earthquakes with different return periods in Kyrgyzstan

<i>Annual exceedance probability</i>	<i>Economic loss (USD million)</i>	<i>Percentage to GDP (2007)</i>
0.5%	160	4.57
5.0%	49	1.40
20.0%	15	0.42

Source: RMSI, 2008.

Hundreds of small and midsize quakes occur in the country every year. Almaty, the commercial capital of the neighboring Kazakhstan and which is in the same risk zone as Bishkek, has twice been destroyed by earthquake in the last 100 years. The August 19, 1992 earthquake of magnitude 7.3 in the Dshalal-Abad region killed 54 people, affected 86,800 people, and incurred a reported economic loss of USD 130 million. Earlier, on May 15, 1992, a 6.6 magnitude earthquake in Burgandi-Nookat region killed 4 people, affected 50,000 people, and caused an economic loss of USD 31 million. The January 9, 1997 earthquake of magnitude 7 in the Ak-Tala district affected 1,230 people and caused an economic loss of USD 2 million. The December 26, 2006 earthquake of magnitude 5.8 in the Isakeevo- Kochkorka region affected 12,050 people. Recently, on October 5, 2008, a powerful earthquake of magnitude 6.6 hit the southeast of Kyrgyzstan 220 km from the main city of Osh, near the borders of Tajikistan and the People's Republic of China. The two districts (rayons) of Alai and Chonalai were affected. The village of Nura was the most severely damaged, with 74 people (including 43 children) killed, and 157 people injured. An estimated 90 percent of the village infrastructure was destroyed and more than 850 people were left homeless. The estimated damages caused by the earthquake in the area covered in the assessment were in the range of USD 20 million.

Natural hazards insurance

Currently the market offers coverage for all natural perils (including earthquake, flood and wind) as part of all inclusive property coverage for homeowners and enterprises.

The estimated level of insurance penetration for all-inclusive residential property covers is very small – around 10,000 policies country-wide, which is less than 1% of all insurable urban dwellings in the country. Most of insurance policies have been taken out by mortgage borrowers at the request of banks affiliated with insurers. However, over the last few months due to the precipitous declines in property values and the ongoing deleveraging of the banks' balance-sheets, mortgage lending came to a halt thus putting on hold insurers' efforts to gain new business.

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

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

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

and some don't buy any reinsurance at all, unless specifically requested by their large commercial clients.

Insurance companies generally do not manage their risk accumulations and have no estimates of their real risk exposure, e.g. probable maximum loss (for any given return period) for its portfolio of property business in disaster prone areas.

While the pricing of insurance risk is highly favorable to homeowners, it is clearly not adequate to cover the costs of providing coverage for all property perils in the long-run. The premium rates in general and property insurance in particular are driven by market competition only. For example, in the neighboring Kazakhstan, the premium rate for an all inclusive property cover is offered at the rate of 3-4 per mille, while in San-Francisco, the city with roughly same level of seismicity, the rate could be even higher varying between 4-6 per mille. In Turkey, the premium rate just for the earthquake coverage (without including FLEXA perils) in Istanbul is about 3 per mille. As a result of this risk under-pricing, local insurers cannot afford reinsurance, which leaves them highly exposed to the risk of earthquake and insolvency in case of a major catastrophic event as they will be unable to honor claims of their clients.

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

There was an attempt last year by the government to introduce a compulsory disaster insurance law but the law was rejected by the Parliament as being at odds with the country's constitution.

Uzbekistan

Insurance market overview

In 2007, the gross total market premiums written in Uzbekistan were UZS 72.3bn (USD 57.3mn) compared with UZS 48.7bn (USD 40.7mn) in 2006. Although this makes it the second largest in the region after Kazakhstan, the insurance consumption per capita is extremely small – about USD 2, which points to the nascence of the Uzbek market. The market however has been quickly growing outpacing the nominal GDP growth by at least 100 percent, with the majority of business being the insurance of large property and liability risks, compulsory insurance of motor vehicles and the insurance of transit risks, particularly of oil exports. There is very little personal insurance. The majority of the population does not have the available income to insure their property. Private sector and joint venture insurers target the insurance needs of foreign investors, or rely on business channeled to them by their owners. If the oil and gas industry develops there could be an increased demand for insurance, both for the facilities and pipelines and the commodities.

There are 27 registered insurers in the market of which 25 are non-life companies. The market for personal insurances and life and savings products is very small, and there is unlikely to be a development of broadly based financial service groups for some considerable time until the living standard of the population will have improved.

Although the monopoly of the state companies has ceased to exist in theory, in practice, the four state-owned companies still receive the majority of government business, which is directed to them. With the market share of 23.7 percent, in 2007 Uzbekinvest was the largest of the four state-owned insurers in premium income terms. It was established in accordance with an April 1994 decree with the objective of insuring investments in property in Uzbekistan by foreign parties, the interests of Uzbekistan investors abroad and exporters. Uzagrosugurta is the second largest insurer in Uzbekistan. In 2007 the company had a share of approximately 19.4% of the total market, compared with 18.2% in 2006. The company has around 10 million policyholders, predominantly in the rural areas because of the compulsory classes of agricultural insurance (e.g. crop, livestock, and rural structures) it underwrites. Most of this insurance coverage however is heavily subsidized by the government and can be considered as a latent form of government assistance to agriculture rather than genuine insurance. In 2006, the four state-owned insurers controlled almost 49% of market share.

The further development of the market is hindered by the relatively low level of foreign investment and the depressed incomes of the majority of population. In addition, there appears to be a genuine lack of risk management culture among local businesses and individuals, which typically buy insurance if only required by their lenders. But even in that case, the key consideration in choosing the insurance carrier is the price of coverage rather than its claims payment record, capital base or quality of its reinsurance protection. As a result, local insurers which refuse to compete on price but rather on the credit

quality of their coverage and services are bound to insure only companies with foreign participation or foreign property interests.

The cut-throat competition on price among local insurers results in the unhealthy situation when local companies do not collect enough premium to buy adequate reinsurance protection and hence end up retaining most of the risk themselves. In a country as seismically prone as Uzbekistan, such an approach to risk management is a sure path to insolvency.

In cases when reinsurance is bought, it is usually for large commercial and industrial risks on a facultative basis. There is virtually no business written on an excess of loss basis, and catastrophe covers are not generally purchased.

Most of insurance sales in Uzbekistan are primarily done by company employees, with the exception of the extensive agency network of Uzagrosugurta. A number of other insurers such as Uzbekinvest have branches or subsidiaries in the regions. For a number of compulsory lines, especially in life/personal accident, the appropriate ministry pays the premium centrally. Passenger personal accident premium is collected as a supplement to the ticket price, and supplementary passenger personal accident is sold from ticket booths. Insurance brokers do not play any significant role in the market.

Review of natural hazards insurance

Country risk profile

Uzbekistan is prone to number of rapid onset natural hazards such as earthquake, flood, and landslide. However, with an economic average annual loss of USD 89 million, earthquake hazard is the most dominant in Uzbekistan. The 1966 Tashkent earthquake left over 100,000 people homeless by destroying a good part of the city. The reported economic loss from the quake was USD 300 million, which, if adjusted for inflation in dollar terms, in 2008 terms would be equivalent to about US 2 billion. However, the repeat of the 1966 earthquake today is likely to cause a considerably larger loss than that due to the considerably increased value of assets at risk in the city since then.

The 7.0 magnitude earthquake of Gazli on May 17, 1976, caused an economic loss of USD 85 million. On March 19, 1984, earthquake of magnitude 7.0 in the Gazli–Bokhara region, affected 201,100 people and caused an economic loss of USD 5 million. In May 1992, an earthquake of magnitude 6.2, killed 9 people and affected 50,000 people in the Andizhan region.

The preliminary estimates of economic loss potential in Uzbekistan from large natural disasters (derived on the loss data for the last 20 years) are presented in Table X below.

Table X. Uzbekistan loss potential to natural disasters (GDP %)

Economic Loss Potential (1988-2007)		
<i>Annual exceedance probability</i>	<i>Economic loss (USD million)</i>	<i>Percentage to GDP (2007)</i>
0.5%	2,128	9.5
5.0%	623	2.8
20.0%	177	0.8

Source: RMSI, 2009

As can be seen from Table X, an economic loss from a 20 year event (e.g. with probability of 5.0 percent) is estimated at USD 623 million (2.8 percent of GDP) while the 200 year return period loss is USD 2.13 billion (9.5 percent of GDP).

Floods and mudflows hazard is significant in the country. A few are caused by snowmelt run off or severe storms; very large floods and mudslides are generally caused by the outbreak of mountain lakes. Uzbekistan is also having trans-boundary hazard from hundreds of lakes in the Kyrgyzstan and Tajikistan, upstream of Uzbekistan in the Aral Sea basin. In 1998, a breakthrough on the Shakhimardan river, originated in Kyrgyzstan, killed 100 Uzbeks and caused damage estimated at USD 700 million. Lake Sarez in Tajikistan has also flooding hazard for Uzbekistan and Tajikistan. Flood event of February 2005 in the Boymurod region affected 1,500 people.

Natural hazards insurance

Currently the market offers coverage for all natural perils (including earthquake, flood and wind) as part of all inclusive property coverage for homeowners and enterprises.

The estimated level of insurance penetration for all-inclusive property covers is very small – around 60,000 homeowners policies country-wide in urban areas or about 1 percent of all insurable urban dwellings in the country. Although Uzagrosugurta reported about 700,000 property policies in its portfolio, most of these policies were issued to cover auxiliary structures (such as greenhouses, warehouses, cattle farms, etc.). The sums insured in the case of agro property covers were based on the cadastre values, which are only a small fraction of the true replacement cost or market value of these properties.

Despite the fact that the terms of coverage and pricing are highly favorable to the insured – deductibles rarely exceed 2% but in most cases tend to be zero while premium rates hover at the level of 0.5-1 per thousand of sum insured or below - there are virtually no voluntary buyers of insurance coverage. This situation can mainly be explained by the lack of insurance culture, low incomes of the population and the general mistrust of insurance companies. As a result, most insurance policies have been taken out by mortgage borrowers at the request of commercial lenders.

There are no sub-limits for natural perils and the loss settlement is done on the basis of replacement value - up to 100 percent of property cost in case of full non-life insurance (less a deductible) and proportionally in case of underinsurance.

Insurance companies have a genuine lack of risk management skills and lack appreciation of the enormous loss potential inherent in writing the all-inclusive property covers in earthquake prone areas. Despite a rather small capital base (the current statutory minimum capital requirement for insurers is \$1 mm), the vast majority of companies do not buy excess of loss reinsurance to protect their risk retentions, and some do not buy any reinsurance at all. Most companies do not actively manage their risk accumulations or even had any estimates of their potential liabilities in case of a severe catastrophic event for the existing portfolio of property business.

While the pricing of insurance risk is highly favorable to homeowners, it is clearly not adequate to cover the costs of providing coverage for all property perils in the long-run. The bundling of the FLEXA⁸ insurance cover with a catastrophic perils cover into one all-inclusive policy has created fertile ground for mispricing the risk of catastrophic perils by insurers as the competition drives the rates for EQ to zero. For example, in the neighboring Kazakhstan, the premium rate for an all inclusive property cover is offered at the rate of 3-4 per mille, while in San-Francisco, the city with roughly same level of seismicity, the rate could be even higher varying between 4-6 per mille. In Turkey, the premium rate just for the earthquake coverage (without including FLEXA perils) in Istanbul is about 3 per mille. As a result of this risk under-pricing, local insurers cannot afford reinsurance, which leaves them highly exposed to the risk of earthquake and most likely insolvency in case of a major catastrophic event as they will be unable to honor claims of their clients. The problem is further amplified by the general reluctance of companies shareholders to spend money on reinsurance and the lack of regulatory capacity to monitor the companies' true risk-based solvency margin.

To summarize, the level of catastrophe insurance penetration in Uzbekistan is too low to mitigate the adverse financial consequences of future natural disasters on the economy, central government and households budgets.

The lack of adequate risk management and risk underwriting skills in the local insurance industry is likely to severely impair the ability of insurers to pay claims in the case of major catastrophe events.

⁸ FLEXA stands for Fire, Lightening, Explosion and Aviation (damage caused to property from a falling plane) – a typical set of risks bundles in one insurance product in many countries.

Kazakhstan

Market overview

On January 1, 2008, there were 44 licensed insurance organizations (8 of them life insurance companies) and 12 insurance brokers operating in Kazakhstan. With the total insurance premiums of USD 890 million and the surplus capital of USD 1106 million, the Kazakh insurance market has by far surpassed all the rest of Central Asian markets combined. The property insurance premium alone was USD 178.6 million, which is almost two times the amount of total premium in the neighboring countries. The personal insurance consumption at the beginning of 2009 was US 63.3, which among the CIS countries was only second to Russia.

Until recently, the market has been growing very fast due to the conducive regulatory environment and the rapid country economic growth. At the end of 2008, due to the deteriorating economic environment and the considerable financial strains experienced by the local companies, the period of market growth came to an abrupt end. It appears that the next few years will be the period of market consolidation through mergers and acquisitions, which is likely to eventually improve the quality of local insurers' balance-sheets.

Nevertheless, the market remains highly profitable. Total volume of insurance claims paid last year was USD 372.67 million which is only 41 percent of gross premium written.

The Kazakh insurance market also favorable stands out from the rest of the regional markets in terms of the quality of its regulatory oversight and the resultant quality of risk management at the company level. Local insurers have to comply with the European style insurance regulations on the solvency margin, which is vigorously enforced, as well as with the regulatory requirements to their reinsurance placements.⁹ Although when it comes to reinsurance placements, there is still considerable room for improvement, in 2008 local insurers paid USD 402.67 million in reinsurance premium (45.2 percent of total written) to improve its overall claims performance, out of which 38.9 percent went to foreign reinsurers.

Until recently, the influence of foreign insurers in Kazakhstan was limited by the restriction on foreign participation in joint ventures. Since 2007, there has been no such limitation. In mid-2007 it was announced that Allianz Group was set to acquire 100 percent of ATF Policy, a subsidiary of ATF Bank, and the 10th largest insurance company in Kazakhstan in terms of 2006 gross premium income. This would represent the first fully foreign-owned Kazakh insurance company.

⁹ Постановление №130 от 30 апреля 2008 – Office of Insurance Supervision

The presence of international brokers in Kazakhstan has done much to internationalize the market, particularly in the field of reinsurance. Due to long-standing connections, the Russian reinsurance market has strong relations with Kazakhstan, and a substantial percentage of business is still reinsured in Russia. The market is now completely privatized with the exception of the government-owned export credit insurer.

In 2006, the top five companies accounted for 46.8 % of the non-life market in terms of gross premium income, and the top ten commanded 74.2% of gross premium written. The top five companies, in terms of gross premium, were Eurasia, Almaty International, Kazakhinstrakh, BTA and Alliance Policy.

Review of natural hazards insurance

Country risk profile

Kazakhstan is vulnerable to a number of natural hazards, such as earthquake, flood, landslide/mudslide/debris-flow, avalanche, extreme temperature. Although Kazakhstan lies in a region with low to very high seismic hazard, earthquake is the dominant natural hazard faced by the country. The area of the Tien Shan and Altai mountains is characterized by a very high seismic hazard (Zone IV-V), which is home to 6 million people (more than one third of country's population) and more than 40 percent of the nation's industrial capacity. Earthquake damage in the country is underreported due to its remoteness and poor damage assessment practices. Historically, Kazakhstan has been experiencing highly damaging earthquakes that tend to occur every 80-100 years. The last period of seismic activities was 1885-1911. During that period, several damaging earthquakes occurred at Verneskoye (1887), Chilik (1889), and at Keminskoye (1911). During these earthquakes, the Almaty city was almost flattened. The 1911, Kemin (Kebin) earthquake in the northern Tien-Shan (Kazakhstan, Kyrgyzstan) formed a complex system of surface ruptures. Six fault segments of the Kemin-Chilik and the Aksu fault zones with different strikes, dips, and kinematics had been activated. Damage occurred in the Chong-Kemin (Bol'shoy Kemin) valley as well as at Anan'yev and Oytal, Kyrgyzstan. Faulting, fractures and large landslides were observed over an area 200 km in the Chong-Kemin and Chilik valleys and along the shore of Lake Issyk-Kul. The earthquake was felt more than 1,000 km away in Kazakhstan and Russia. The Kemin earthquake was one of the strongest events of a sequence of seismic catastrophes that affected the Kungei and Zaili-Alatau mountain ranges between 1887 and 1938. Since then, there has been no such large damaging earthquake and there are high possibilities of another series of such earthquakes within the next 10-15 years. The more recent May 2003 earthquake of Zhambyl province killed 3 people and affected 36,626 people. The August 1990 earthquake on the Kazakhstan-China border killed 1 person and affected 20,008 people with an economic loss of USD 3 million.

Kazakhstan also has significant flood hazard. In the plains, spring floods fed by rain and snowmelt occur and in mountainous regions mudflows occur. Mudflows are usually

initiated by rainfall or breaches of glacial lakes. However, the largest mudflows are those triggered by the earthquakes¹⁰. Analysis of disaster data show that the country suffered from frequent flood disasters. For example, the June 1993 flood in the Embinskyi Kzylkoginskyi region killed 10 people, affected 30,000 people, and caused an economic loss of USD 36.5 million. The April 2000 flood of the Denisovsky–Zhitikarinsky region affected 2,500 people and caused an economic loss of USD 1.5 million. Recently, the March 2005 flood of the Shiyeli–Syr Dariya region affected 25,000 people and caused an economic loss of USD 7.6 million.

Despite a considerable loss potential from different natural disasters, the country’s financial vulnerability to natural disasters is somewhat reduced by the large size of its economy and the considerable geographic diversification of its economic base. Nevertheless, economic losses from a severe earthquake (with a return period of 200 years) can be well in excess of USD 1.13 billion, which in will deal a hard blow to the country’s public finances. A preliminary estimate of economic loss potential from catastrophic events with different return periods is presented in Table X below.

**Table X. Economic Loss Potential from Natural Disasters in Kazakhstan
(1988-2007)**

<i>Annual exceedance probability</i>	<i>Economic loss (USD million)</i>	<i>Percentage to GDP (2007)</i>
0.5%	1,136	1.09
5.0%	348	0.34
20.0%	100	0.10

Source: RMSI, 2009

Natural Hazards Insurance

Currently the local insurance market offers coverage for all natural perils (including earthquake, landslide, flood, windstorm, and hail) as part of all inclusive property coverage for homeowners and enterprises. While homeowners have the right to exclude natural perils from the coverage, in reality very few do so as the ongoing premium rate for comprehensive coverage is only marginally higher than that covering FLEXA perils only. Insurers do not sell stand-alone catastrophe insurance protection.

Due to the relatively low level of insurance awareness, most of homeowners’ insurance policies in-force were bought by home buyers that took out mortgage loans from affiliated lenders. Most of large insurers in the country are owned by local banks.

The current estimated level of insurance penetration for all-inclusive property covers is small. While there is no official statistics on the policy count by classes of business, our

¹⁰ Pusch, 2004, World Bank Report.

estimates indicate that the number of residential policies is around 85000 which is about 2% of all insurable urban dwellings in the country.

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

The terms and conditions of coverage and pricing are more robust than in any other country of the Central Asia, e.g. the minimum deductible for earthquake is 5 percent, although our survey shows that in most cases it is around 10 percent; premium rates vary between 0.25-0.41% per sum for all-risks coverage; while the sum insured is set equal to the amount of a mortgage loan taken out by an insured; there are no sub-limits for natural perils and the loss settlement is done on the first loss basis using the replacement cost approach as long as the policy has been taken out in connection with a mortgage loan. For all other insured, the maximum claim payment is proportionate to the sum insured relative to the replacement cost of the property.

Although in general the premium rates appear to be adequate, there is little price differentiation across different types of residential property risk as the price is set by market forces. Nevertheless, more advanced companies use Munich Re maps of natural hazards and the Benfield model for determining the location surcharges on insured property. More hazard exposed areas are rated higher.

There is a growing demand on the part of local large insurers for catastrophe excess of loss reinsurance from the international market to cap potential losses from a major catastrophic event in the earthquake prone parts of the country. Yet, in the absence of credible catastrophe risk models from independent reputable vendors, insurers face difficulties in estimating their potential maximum portfolio losses from catastrophic events with different return periods. In this information vacuum, companies appear to err on the optimistic side, buying the bare minimum of reinsurance protection in order to retain the maximum of amount of premium. Our preliminary estimates indicate that the amount of cat XL reinsurance bought by companies will be sufficient only to cover losses from events with a return period well under 100 years (vs. the international standard of 1-in-250 years).

None of the interviewed companies, except foreign-owned, actively managed its risk accumulations or even had any estimates of their loss potentials (e.g. PML estimates for different return periods) from its portfolio of property business. In that sense, although the market regulation is the most advanced in the region, the excessive catastrophe risk exposure of the local companies is yet to be addressed by the Insurance Supervisor.

The survey allows us to draw the following conclusions about the Kazakh market:

1. The level of catastrophe insurance penetration in Kazakhstan is too low to mitigate the adverse financial consequences of future natural disasters on the economy, central government and households budgets.

2. The nascent level of risk management in the local insurance industry is likely to severely impair the ability of insurers to pay claims in full in the case of major catastrophe events, although the expected indemnity payouts per each dollar of sum insured are likely to be well over 50 percent.
3. Despite the above mentioned drawbacks, the Kazakh insurance market is clearly the most advanced in the region and hence can be used as a launching pad for a regional catastrophe insurance program.

Conclusions

1. Central Asian insurance markets are not homogenous in terms of their development.

The review of regional insurance markets revealed that although the countries of Central Asia have started their post-Soviet economic transition roughly on the equal footing, overtime the Kazakh insurance market have become a clear leader both in terms of size and the level of its technical sophistication. In 2008, the gross insurance premium and the total surplus capital of the Kazakh market were many times that of all its neighbors combined. The vigorous enforcement by the Kazakh regulatory authorities of solvency and minimum capital requirements in the marketplace enables healthy market competition characterized by adequate risk pricing by local insurers and their sufficient capitalization. Hence, our first main conclusion is that in terms of their overall development the markets of the region can be clustered into two distinct groups – Kazakhstan and the rest of Central Asian markets. Hence, any approaches to further market enhancement must differentiate between these two groups of countries.

2. All Central Asian insurers have made very little progress in developing personal insurance lines – including property insurance with catastrophe endorsement.

Although the level of development of different markets in the region considerably varies from country to country, the level of personal property insurance coverage (inclusive of natural hazards cover) remains universally low in all 5 markets. The overall number of households covered against the FLEXA risks and natural hazards does not exceed 1 percent in any given market. Among the key reasons behind such a low level of insurance penetration for property and natural hazards coverage are the lack of general insurance awareness, low disposable incomes of the population (with Kazakhstan being a relative exception), and the lack of confidence among the population in the ability of local insurers to pay claims in case of a major catastrophic event.

4. Central Asian insurers suffer from the acute lack of risk management skills, which may jeopardize their ability to pay claims in the case of a large catastrophic event.

The survey revealed that most of insurance companies do not have the necessary underwriting, actuarial and reinsurance skills to offer coverage against natural hazards. The majority of companies does not buy any reinsurance protection for their risk accumulations, while those who do buy reinsurance end up placing their covers with non-rated carriers¹¹ in Russia and Ukraine, which are ready to accept the risk at a very low rate. Most of reinsurance coverage is bought on the quota share basis. Very few companies buy any excess of loss coverage and only 2 companies acquired catastrophe excess of loss protection. Only foreign-owned companies monitor their catastrophe risk

¹¹ Non-rated are insurers are defined as those which do not have investment grade ratings from either of 4 internationally recognized rating companies such as S&P, Moody's, Fitch or A.M. Best.

accumulations and use modeled estimated of risk to determine their probable maximum loss from catastrophic events with different return periods.

5. In Central Asian market, except Kazakhstan, the premium rates charged by insurers for providing all-risk property coverage appear to be grossly inadequate to cover the costs of risk.

The lack of insurance effective insurance supervision along with the cut-throat competition for new business resulted in very low premium rates for all-risk property coverage charged by Central Asian insurers. Although, on the surface, this may be good news to the consumers, in reality, inadequate premium rates mean that companies will not be able to afford placing reinsurance cover with credible reinsurance companies and hence would have to retain most if not all the risk themselves. This endangers their ability to pay claims in the case of a catastrophic event.

6. Low disposable incomes and the lack of trust among the general population to insurance companies hinder the development of the personal insurance lines market in the region.

The poor claims payment record of many local insurers in combination with the still living on old memories of the Soviet insurance organizations such as Gosstrakh and Ingostrakh (which were perceived as a form of government tax agents in insurance disguise) presents a major obstacle to the expansion of the private lines market.

7. Hazard risk models for key natural perils are yet to be developed. In the absence of credible catastrophe risk models, local insurers' ability to manage their catastrophe risk is severely handicapped.

Most of insurers in the market do not have any reliable quantitative estimates of their peak risk exposures (PML for given return periods), which makes them financially vulnerable to large catastrophic events.

Recommendations

1. The insurance sector in all 5 countries will benefit from the development of a regional catastrophe risk model for key natural perils (primarily earthquake) by an internationally recognized world-class independent risk modeler. The results of this work will go a long way to address the existing lack of clarity with regard to pricing of catastrophe risk, making sound reinsurance purchase decisions and managing companies' risk accumulations.

2. The Insurance Regulatory authorities in all countries should encourage companies to regularly provide information about their risk accumulations (in terms of sums insured and a 200-year PML) by cresta zone. The latter could be based on the quantitative model driven estimates of insurers' risk accepted by the insurance regulator. In the absence of the country specific hazard model, the Insurance Regulators may use a proxy coefficient borrowed from a location with a similar level of seismicity (say Bucharest or Mexico-city).
3. Country Insurance Regulators should carry out a comprehensive review of the companies' reinsurance practices to ensure the sufficient credit quality and quantity of reinsurance protection bought from the international and frequently local reinsurance market.
4. The regional insurance market and all 5 countries will benefit from the creation of a regional catastrophe insurance pool, which can rapidly boost demand for stand-alone catastrophe insurance coverage in each country of the region through the introduction of a mandatory insurance cover for all urban dwellings. Besides securing access for local homeowners to affordably priced and reliable coverage, the regional pooling mechanism will also help reducing the financial exposure of local insurers and governments to the catastrophic risk. Given the advanced level of the Kazakh insurance market in the region, Almaty appears to be the most suitable location for such a regional insurance facility.

CHAPTER III

SURVEY OF GOVERNMENT POST-DISASTER SAFETY NETS IN CENTRAL ASIA¹²

Background

Over the last century in all countries of Central Asia government has been traditionally playing the role of the main financier of natural disasters. The situation has not changed after the collapse of the Soviet Union and the emergence of five independent Central Asian states. Given the nascent state of the local insurance markets, today in all countries of the region governments remain the only existing providers of post-disaster safety nets. However, to date there has been no clear and systematically collected information on the effectiveness and size of these government safety nets. Hence, the main objective of this work was to describe the level and effectiveness of government financial assistance to households and small and medium enterprises (SMEs) in the aftermath of natural disasters. Such government assistance to victims of natural disasters typically comes in the form of post-disaster subsidies for income support and reconstruction of personal dwellings, subsidized reconstruction loans as well as material in-kind emergency assistance from the government emergency “material” reserves.

Overview

From the outset, it must be pointed out that in general the information received from the written surveys and country missions has been rather scarce varying greatly from one country to another. Turkmenistan was the country least open to the study as it did not provide any relevant information at all. Nevertheless, despite the overall shortage of fiscal data the overall picture that emerges from our field research is clear -- the fiscal resources allocated by governments in all 5 countries for national emergencies are grossly insufficient to meet the costs of even small natural disasters.

National post-disaster funding mechanisms

Emergency budgetary allocations. As shown in Table 1 below, only 3 out of 5 surveyed countries (e.g. Kazakhstan, Tajikistan and Uzbekistan) budget annually for emergencies, including natural disasters, by allocating a percentage of budgetary revenues a national Emergency Fund. Budgetary resources from this fund can be used to finance natural and man-made disasters every year. However, even in those countries which regularly make budgetary provisions for emergencies the annual allocations are well under 1-2 percent of total national budgets.

¹² The information presented in this Chapter was collected through written questionnaires addressed to responsible government officials as well as through personal interviews carried out by the author of this report during the World Bank and UN ISDR joint mission in January 2009 in all 5 countries of the region.

In Kazakhstan and Uzbekistan, central government budgetary allocations for emergencies are supplemented by emergency allocations in the budgets of local and regional authorities. However, given the highly centralized inter-governmental fiscal systems in the countries of Central Asia, provincial and local authorities typically do not fully fund these emergency allocation items in the expectation of emergency assistance from the central budget. Hence, central government budget remains the main and the largest source of post-disaster funding. The annual central budgetary allocations could be also supplemented by funding from emergency budgets of government ministries and agencies, but these budgets are typically very small.

All countries established and maintain “material emergency reserves” which contain food and medical supplies. These provisions are dispensed in cases of national emergencies to victims of disasters.

Due to limited funding for emergencies in national budgets most often, in cases of emergencies, countries have to increase their original budgetary allocations to a disaster fund by passing special emergency legislation.

Table 1. Sources of government funding for emergencies in Central Asia

Country	State budget (USD mm)	Local budgets (USD mm/%)	Government agencies	Emergency material reserves
Kazakhstan	<612 (1)	2%	NA	Yes
Kyrgyzstan	2	NA	NA	Yes
Tajikistan	3.54	NA	NA	Yes
Turkmenistan	NA	NA	NA	NA
Uzbekistan	23.3	NA	NA	Yes

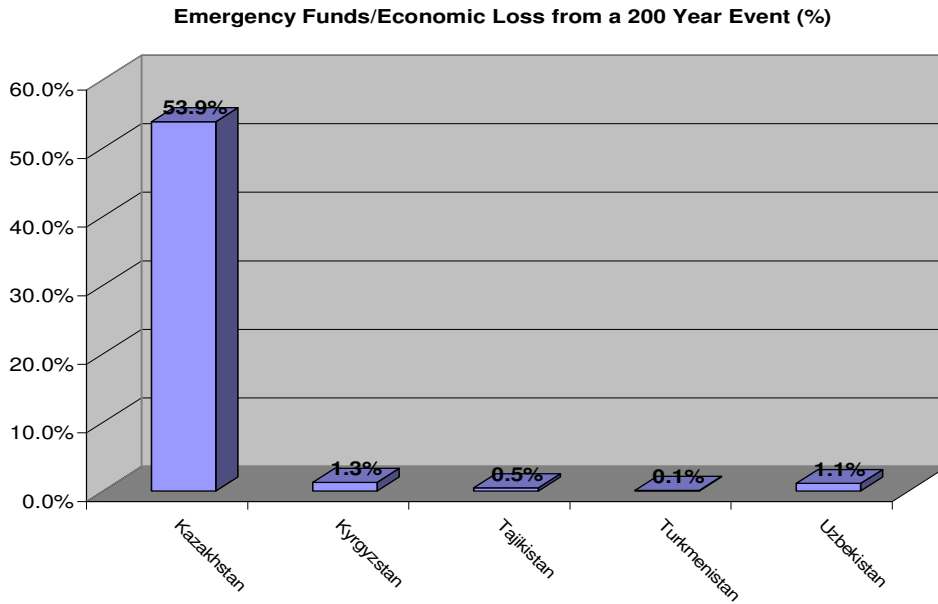
Sources: The information provided in the table is from official statistics provided by governments of all Central Asian Countries for 2008-09.

Notes: Kazakhstan potential allocation to the emergency fund is assumed equal 2% of 2008 Republican and local budgets combined at the USD/Tenge exchange rate of 151.

Size of disaster funds. Figure 1 which compares damages from major catastrophic events in Central Asian with a 200 year return period with annual national disaster funds. As can be seen, except for Kazakhstan, which has a very large economy, government fiscal resources earmarked for emergency funding in four other countries are very small compared to potential economic and fiscal damages that may be caused by large catastrophic events. In general, the average annual budgetary allocation for natural disasters rarely exceeds 1 percent, which is grossly inadequate given the small of national economies (except for Kazakhstan) and a very large size of a potential economic loss expected from large natural disasters.

Disbursements. Disbursement of surveyed disaster emergency funds is subject to approvals by several special government committees (both at the local and the central levels) which can be quite time-consuming. The disbursements typically are triggered by a passage of a special government decree. None of the countries surveyed required a declaration of national emergency as a precondition for the fund disbursement.

Figure 1



Eligibility. In most countries, the emergency assistance aid can be made available to households, businesses, and local governments. None of the countries had a means testing requirement as a precondition of the aid. There is no delineation of government and private sector liabilities when it comes to funding the loss in the aftermath of a disaster.

Amount of assistance. Due to the rather limited financial resources, disaster funds can only reimburse a small fraction of total losses sustained by most of disaster victims. These amounts vary from USD 550 in Tajikistan to USD1200 per person in Kazakhstan. Government assistance is not in any way linked to the presence of insurance coverage at the time of a disaster.

Conclusions The countries of the regional are fiscally vulnerable to natural disasters as potential losses from a large size catastrophe event can many times exceed their budgetary resources earmarked for natural disasters. The existing emergency budgetary mechanisms in the countries of the region are simply not capable of dealing with large size catastrophic events.

To address the existing fiscal vulnerability of governments and of households to natural disasters, the governments of Central Asia should considers putting into place ex-ante risk financing mechanisms, which will include:

- National and possibly regional catastrophe insurance pools for Central Asia.
- Quickly disbursing contingent credit facilities currently offered by development lenders (World Bank and ADB).

- Risk transfer (either through the issuance of a catastrophe bond or a reinsurance contract at a macro-level) of the country disaster risk to international reinsurance or capital markets.

KAZAKHASTAN

According to the Ministry of Finance, the only source of government funding for natural disasters is the Emergency Government Reserve Fund which is financed from annual state budget allocations. Annual allocations to the Reserve Fund can amount up to 2 percent of total annual budget. This however appears to be the maximum possible budgetary allocation in case of a national emergency, which in normal times remains unfunded. The unclaimed amounts cannot be carried forward. Due to a highly centralized of intergovernmental fiscal relations in Kazakhstan, the Reserve Fund also is the main source of emergency funding for regional and local government. Although the latter are at least in principle required to allocate at least 2 percent of their own budget for emergencies in practice very few do so out of their own resources, as those are limited. Table 2 below summarizes annual budgetary expenditures of the Reserve Fund during the last 3 years.

Table 2. Annual emergency expenditures financed by the Reserve Fund

Year	2006	2007	2008
Amount (USD)	3,451,500	7,934,290	4,098,361

The funds referenced in the Table were used to provide emergency assistance and reconstruction works in the areas affected by natural disasters in Kazakhstan and the neighboring countries. While being sufficient to address small size emergencies, the Reserve Fund would have been clearly inadequate in the case of a severe catastrophic event. For instance, according to the Ministry of Emergencies, even during the recent floods in the South-Kazakhstan and Kazlardsinski regions, the government assistance was sufficient only to provide up to 100,000-200,000 Tenge to the owners of properties destroyed by the floods (e.g. about USD 800-1600 per destroyed property), which is only a fraction of property replacement cost.

In addition to the Emergency Reserve Fund, there is also a Material Reserve consisting of essential supplies and materials needed in the case of an emergency.

KYRGYZSTAN

According to the Ministry of Emergencies, the only source of funding in the Republic is the Emergency Fund of the Cabinet of Ministers. In 2008, the allocations to the fund were about USD1 million, while for 2009 the allocation is USD 2 million.

Given the very limited government resources dedicated to disaster risk financing, the government should consider putting in place ex-ante risk financing mechanisms that can help addressing the urgent liquidity needs in case of a major catastrophic event.

TAJIKISTAN

The main source of funding for natural disasters in Tajikistan is the state budget which contains a contingency fund for funding emergency relief operations (for example, for rehabilitation and enhancement of water-development facilities, canals and irrigation systems, bank protection, rehabilitation of roads and other economic facilities affected by an emergency as well as for providing one-off financial assistance to population for recovery of affected houses, etc.)¹³.

Funding is allocated at the discretion of the State Commission on Emergency Situations of the Government of the Republic of Tajikistan depending on the scale of disaster and total damage. For example, in 2008, the total sum allocated for strengthening of river banks was 10 million (USD 3 million) Somoni, one-off assistance to affected population and families of victims – more than 154,000 Somoni (USD 40,000), for subsidized loans to environmental migrants – more than 1.8 million Somoni (USD 0.5 million).

The issues of prevention of emergencies and relief operations are regulated by the law of the Republic of Tajikistan “On Protection of Population and Territories from Natural and Man-made Emergencies” of July 15, 2004.

Funding of emergency relief operations depends on the scale and classification of an emergency situation and is provided at the local level by organizations and institutions, administrations of oblasts, towns and districts and in the case of trans-border zones from the contingency fund of the State budget of the Republic.

The period of funding allocation depends on a decision of the State Commission on Emergency Situations under the Government of the Republic of Tajikistan.

Financial assistance is provided to affected population for reconstruction of housing or resettlement in cash in the limit of up to 2,000 Somoni (USD 550) depending on the family structure and 300 Somoni (USD 83) for a killed family member (Resolution No. 517 of the Government of the Republic of Tajikistan of 02.12.2003) and 3,000 Somoni (USD 830) a subsidized loan for resettlement to a safe area with a free allocation of a land plot for building housing.

Affected population receives financial compensation from the state in accordance with the following assistance according to the following schedule:

- a) 1,000 Somoni (USD 277) – for housing reconstruction in cases of completely destroyed housing:
 - 100 Somoni (USD 28)– one-off financial assistance to the head of household.
 - 50 Somoni (US 14)– to each household member.

¹³Resolution No. 517 of the Government of the Republic of Tajikistan of 12.02.2003.

b) in cases of partially destroyed housing, the amount of government assistance is as follows:

- housing repairs - 300 Somoni (USD 84)
- one-off financial aid to the head of household -100 Somoni (USD 28)
- to each household member - 50 Somoni (USD 14)

TURKMENISTAN

Unfortunately, no specific information about disaster risk financing sources was provided by the government. It appears however that the country does not have a special Emergency Fund allocation in the national budget due to the limited budgetary space. The financial assistance in the aftermath of natural disasters appears to be allocated ad hoc depending upon availability of financial resources in the central budget and willingness of government to provide such emergency assistance. We have been informed however that in 2008 the President established a special Disaster Prevention and Rescue Services department in the Minister of Defense. The new government service was financed with a USD 25 million budget earmarked for buying rescue equipment and acquiring proper training.

UZBEKISTAN

According to Article 7 of the national Emergency Law¹⁴, the key sources of risk funding in Uzbekistan come from the following sources:

- The Emergency Fund of the Cabinet of Ministers
- The emergency funds of the regional authorities
- The emergency funds of linear ministries.

The Law stipulates that the Cabinet Ministers is responsible for allocation and eventual utilization of financial and material reserves for preventing and as well as addressing national emergencies. Due to the highly centralized nature of intergovernmental fiscal relations in Uzbekistan, it appears that in the case of natural or man-made disasters regional and local authorities have to request disaster related transfers from the central government up to the original budgetary limit envisaged for each territorial unit, and in case of large catastrophes, for an additional allocation from the central Emergency Fund. As neither local governments no government agencies do not have their own financial resources in excess of those provided by the central budget through intergovernmental fiscal transfers, to finance unforeseen emergency expenditures, the annual central government budget remains the only source of funding for emergencies. The total

¹⁴ Protection of Population and Land from Natural and Man-made Disasters, Law N 825-I, 08/20/1999

amount of annual budgetary allocations for national emergencies over the period of 2003-2009 is provided in Table 3 below.

Table 3
Reserve Emergency Fund of the Cabinet of Ministers and
emergency budgets of territorial units combined (2003-2009)

	2003	2004	2005	2006	2007	2008	2009
UZ soum (billion)	55.9	37.7	17.9	19.5	20	31.5	34.18
USD (at official exchange rate)	57.5	37.0	16.1	16.0	15.8	23.9	23.3

Source: Uzbekistan annual budget resolutions

As can be seen from Table 3 above, the annual budgetary allocations for emergencies are very small. For instance, in the case of the repeat of the 1966 Tashkent earthquake, the budgeted emergency allocation will be sufficient to cover less than one percent of economic losses caused by a catastrophe.

CHAPTER IV

CONCLUSIONS

Despite considerable risk exposure to natural disasters the existing risk financing mechanisms in the countries of Central Asia do not have the capacity to address the consequences of large catastrophic events. Hence, reducing the adverse financial impact of natural disasters on governments, businesses and households in the region must be regarded as an important economic and social priority at the national and regional level. Investing in development of market-based catastrophe risk transfer systems at both national and regional level will bring numerous economic and fiscal benefits. In the case of governments, national and regional risk transfer programs will help reduce the contingent fiscal liabilities of governments arising out of their excessive risk exposure to natural hazards, enable them to receive access to immediate liquidity in the aftermath of catastrophic events, and will help to mitigate the adverse impacts of natural hazards on fiscal stability and economic growth. In the case of households, access to affordable market-based catastrophe insurance will serve as an important financial safety net that will help millions of homeowners to protect their life-time savings embedded in the house equity and hence avoid financial ruin. For businesses, access to catastrophe insurance and financial weather hedging instruments will reduce the adverse impacts of natural hazards on their earnings and hence will reduce the cost of borrowing and result in improved business valuations.

Several recommendations emerge from this study. They are intended to guide government policymakers in developing and applying national and regional disaster risk financing strategies, suggest ways in which Bank staff and managers can better address catastrophe risk financing in their dialogue with clients, and provide information and ideas that may be of value to other stakeholders, such as international donor organizations, NGOs, academics, and the general public.

Lessening the impact of natural disasters on government budgets. Numerous quakes that devastated the region in the past clearly demonstrated that large natural disasters can be very costly and can have major negative impacts on national economies and government budgets. Yet, no government in the region, except perhaps of Kazakhstan, has adequate fiscal capacity of its own to cope with financial consequences of large catastrophe events. But even in the case of Kazakhstan, despite its relatively large budgetary allocation earmarked for national emergencies, the maximum budgetary allocations to victims of natural disasters are unlikely to exceed USD 1000 per household, which leaves the financial burden of housing reconstruction with affected homeowners and businesses. Yet, the current level of catastrophe insurance penetration among homeowners and SMEs does not exceed 1 percent of insurable housing stock.

To address government fiscal exposure to natural disasters, countries may consider (i) putting in place stand-by ex-ante disaster risk financing mechanisms, which would grant them immediate access to liquidity in the case of natural disasters. Stand-by credit

facilities, also known as contingent capital, can now be obtained from both the IBRD and ADB.

Reducing the financial vulnerability of homeowners and SMEs to natural hazards.

Despite major loss potentials from natural disasters, the study documented an almost non-existent level of catastrophe insurance coverage among homeowners and SMEs in Central Asian countries. Such low levels of insurance penetration can be partially explained by a combination of many factors on both the supply and demand sides. These include a lack of risk awareness, distrust of population in the ability of local insurers to pay claims in case of a major disaster, reluctance of insurers to actively market catastrophe insurance coverage on a wide scale due to difficulties with obtaining reinsurance, complexity of internal risk management procedures for catastrophe risk, and the highly capital intensive nature of the business. In an attempt to explain the low insurance penetration for catastrophe risk, one can also point out the still rather nascent stage of insurance industry development in the region, and relatively low incomes of most population which often finds that the combined cost of catastrophe insurance and the underlying home-owners policy is beyond their means¹⁵.

In this context, the countries of Central Asia should consider instituting a regional catastrophe insurance pool that would act as a regional aggregator of catastrophe risk and help governments access the global reinsurance market on better pricing terms. The risk pooling arrangement for the Central Asian countries can be modeled after the regional catastrophe insurance facility for Southeastern and Central Europe– the SECE CRIF – which is currently being developed by the World Bank, the UN ISDR and the Regional Cooperation Council for SEE countries.

It may also be advisable for the countries of region with larger-size economies – such as Kazakhstan and Uzbekistan - to consider creating national catastrophe insurance pools which can provide efficiently priced standalone catastrophe insurance to homeowners and small business owners. As has been demonstrated by the international experience, such programs can provide highly affordable coverage by realizing the benefits of country-wide risk diversification, economies of scale and the ability to obtain better pricing terms from the global reinsurance market. The first country wide catastrophe risk pool in an emerging market known as the Turkish Catastrophe Insurance Pool (TCIP) has been pioneered and successfully launched with Bank's assistance by Turkey in 2000. The work on a similar program in Romania has reached a fairly advanced stage.

A relatively large size of the Kazakhstan economy and the more advanced state of development of its insurance market may also provide for the development of a regional catastrophe insurance scheme on the basis of the national Kazakh catastrophe insurance program. Such a program can be then extended to other countries of the region. Unfortunately, the analysis of the insurance markets in other three countries of the region suggests that the creation of stand-alone individual country catastrophe insurance pools is unlikely to be economically and technically feasible.

¹⁵ The homeowners policy and natural perils endorsements are always sold together in the market.

ANNEX I

List of People Met during the February 2009 Mission

Name	Affiliation	Position	Country	Contact details
Kuanysh Dautov	Eurasia Insurance	CEO	Kazakhstan	77227 258 43 36
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Sergey Sukharev	Kazkommertspolicy	Chairman of Board	Kazakhstan	7327920759 kcp@online.ru
Dilyara Karakulova	Insurance Supervisory Agency	Director	Kazakhstan	7727 278 80 97 urist@afn.kz
Telgat Ussenov	Centras Insurance	Chairman of Board	Kazakhstan	77272597755 TUssenov@centras.kz
Mr. Smailov.,	MOF	Vice – minister		
Inessa Umbetova	MoF, Department for Strategic Development	Head	Kazakhstan	717146 /7584/717188 I_umbetova@minfin.kz
Mr. Sabdallin	Ministry of Emergencies	Vice – minister	Kazakhstan	
Murat Ablalov	Ministry of Emergencies, International Cooperation Department	Head	Kazakhstan	94 81 40 ablanov@emer.kz
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Mr. Y.	MOF	Deputy	Uzbekistan	998712394949

Tursunov		Minister		
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