# Central Asia Regional Economic Cooperation Program Disaster Risk Engagement Meeting

## Session 5: Infectious Disease Risk Financing for CAREC

Islamabad, Pakistan
July 2023

# Infectious Disease Risk Financing

Risk Financing for Health and Economy

## Context for Risk Financing

- Pre-arrangement of financing enhances timeliness, cost-efficiency and effectiveness
- Extreme nature of infectious disease risk means private sector risk transfer is very difficult
- Examples of public-private risk financing are rare – but bring important lessons
- Interest in outbreak preparedness, response and financing is unprecedented

## Principles of Risk Financing Mechanisms

- Identify the purpose, functioning, intended beneficiaries, and extent of risk sharing
- Use objective, transparent payment triggers to build confidence and set expectations
- Closely link to outbreak preparedness and response, to strengthen incentives
- Integrate into health system strengthening for sustainability and durability

**There is still a lack of preparedness for an infectious disease outbreak: preparedness, financing and response can work together to strengthen the health system**

# Covid -19 Impacts

The Economic and Human Cost of Lack of Preparation

- Covid 19 caused has been attributed to almost 7 million deaths and over 750 million known cases. Consistent numbers are difficult to find, but this implies a global death rate of 0.871% per case.
- The disease was unknown, its virulence and contagiousness uncertain. Extreme action was taken in many countries, saving lives but impacting economies
- In October 2020, the Global Preparedness Monitoring Board estimated response costs to date of $11 trillion, with a future loss of $10 trillion in earnings. By comparison, it estimated that investments in preparedness would cost $5 per person per year – or about $39 billion.

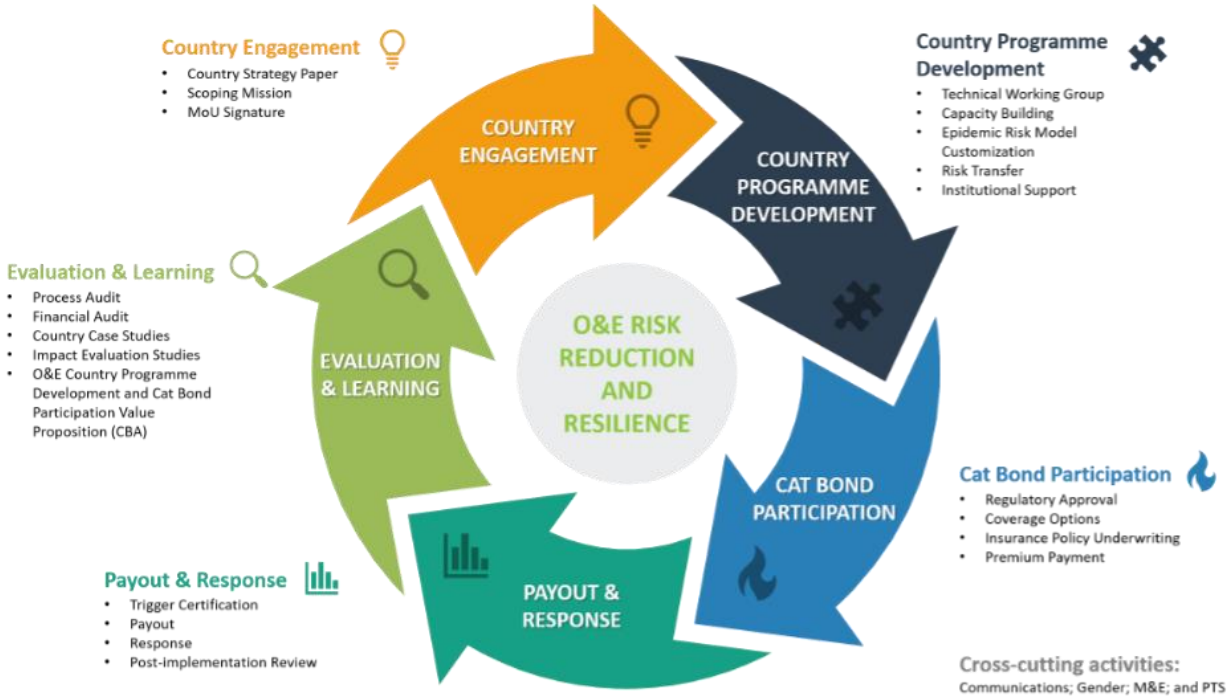
| Country | Deaths | Deaths / Million | Cases |
|---|---|---|---|
| **Global** | **6,948,751** | **871** | **767,726,097** |
| Azerbaijan | 10,283 | 992 | 831,950 |
| Greater China | 152,749 | 105 | 112,142,638 |
| Georgia | 17,101 | 4,567 | 1,845,538 |
| Kazakhstan | 19,072 | 983 | 1,502,857 |
| Kyrgyzstan | 1,024 | 154 | 87,891 |
| Mongolia | 2,136 | 628 | 1,010,034 |
| Pakistan | 30,656 | 129 | 1,580,631 |
| Tajikistan | 125 | 12 | 17,786 |
| Turkmenistan | — | — | — |
| Uzbekistan | 1,016 | 29 | 170,975 |

Source: Our World in Data as at 12th July 2023

# Case Study: African Risk Capacity

## Context

- The African Risk Capacity provides 35 member governments with disaster risk advice and insurance
- To complement the drought and tropical cyclone programs, ARC is developing a sovereign parametric infectious disease product
- Includes:
  - In-country capacity building on epidemic preparedness;
  - Contingency planning for timely and effective response;
  - Epidemiological catastrophe and extreme event modelling techniques to quantify expected losses and price the risk;
  - Risk transfer for early response costs.




Source: African Risk Capacity https://www.arc.int/outbreaks-and-epidemics

## Lessons for CAREC

- Regional solutions can promote risk ownership – appropriate given the transboundary nature of outbreaks
- Engagement for risk reduction and resilience essential to financing
- Encourages reporting of cases and mobilization of resources

*WTW and Metabiota staff have been and/or are involved in ARC's Outbreak and Epidemic work*

# Case Study: The Pandemic Emergency Financing Facility (PEF)

## Context

- Designed to provide financing for low-income countries for response to an emerging infectious disease pandemic and/or regional epidemic.
- Used a catastrophe bond to access private capital ("Insurance Window"), complementing a smaller "first-loss" ("Cash Window")
- $320 million bonds and $105 million of swaps for 3 years were transacted in June 2017
- Covid-19 triggered a $196m recovery to the PEF on 27th April 2020, to be used to support Covid-19 response to 64 vulnerable countries
- By Feb 21 PEF ad paid the full amount available (US$ 195m) for COVID-19, to 64 countries including:
  - Kyrgyz Republic ($1m)
  - Mongolia ($1m)
  - Pakistan ($15m)
  - Uzbekistan ($4.3m)

Source: World Bank https://pubdocs.worldbank.org/en/140481591710249514/pdf/PEF-country-allocations-table.pdf


## Lessons for CAREC

- Risk financing can complement international development support
- Trigger design for payment should be straightforward and transparent for all parties
- The catastrophe bond market can and will support infectious disease risk

Source: World Bank https://www.worldbank.org/en/topic/pandemics/brief/pandemic-emergency-facility-frequently-asked-questions

# Three Proposed Risk Financing Mechanisms for CAREC

Risk financing mechanisms should be designed to promote regional health cooperation

| | | |
|---|---|---|
| **Spark Risk Cover** | Financing for rapid, aggressive action in the early stages of an outbreak | Provides incentives for diagnostic and surveillance capacity building, enabling more effective response |
| **Containment Financing** | Financing for tailored action, in the early stages of an outbreak in a neighbouring country | Underpins regional health cooperation, and provides mechanisms for policy coordination |
| **SME Business Interruption** | Financing to support a structural backbone of the economy | Supports economic and social resilience, and recovery |

- **All three mechanisms are complementary** - designed to work together and address different objectives
- Individually and collectively, they aim to **create and reinforce incentives for preparedness and response**

# Proposed Mechanisms – Characteristics

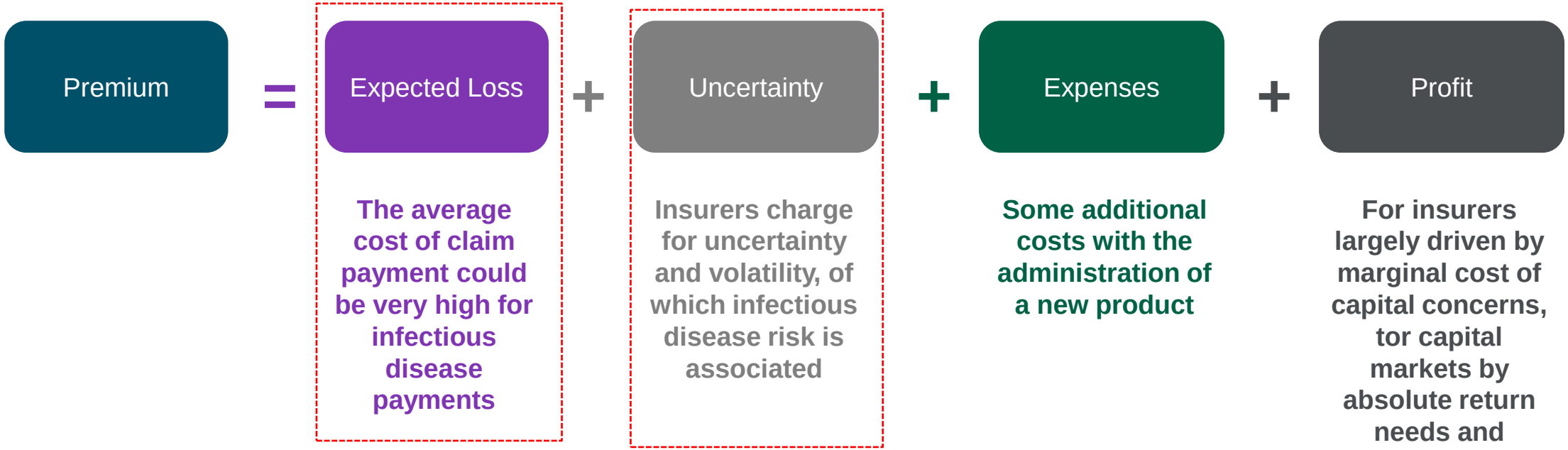
Key design characteristics of each mechanism

- All three mechanisms could require the design and use of contingency plans to utilise proceeds, supporting outbreak preparedness and response

| | Operational efficiency | Incentives for risk mitigation | Does financing match need? | Economic impact? | Support from private financing | Scope for donor support |
|---|---|---|---|---|---|---|
| **Spark Risk Cover** | **High** | **High** | **High** | **High** | Medium | **High** |
| **Containment Financing** | **High** | **High** | **High** | **High** | Medium | **High** |
| **SME Business Interruption** | Medium | Low | Low | **High** | Low | Medium |

# Risk Pricing Fundamentals

**Pricing is composed of the following components, the key ones are impacted by underwriting infectious disease risk:**



# Considerations for infectious disease risk financing

## Challenges with pricing

- Insurance pricing uses "**expected loss**" but COVID-19 demonstrated very different outcomes based upon differences in preparedness and government response
- Risk assessment **must consider the impact of government action** (or inaction), adding uncertainty to risk assessment already suffering from a lack of historical data and uncertainty about the impact of growing global interconnectivity
- This uncertainty makes assessment of future event frequency and severity **more a matter of expert opinion than actuarial method**
- These factors give rise to **investor reluctance, driving higher pricing**, especially given a large recent loss event
- But **intelligent structuring can increase investor confidence**, for example by adding a guaranteed early payment mechanism to the Cash Window triggering fast early response reduce human impact and the risk to risk carriers who fund a severe events
- A structure proposed by Munich Re has the private sector gaining comfort by **public sector co-investment in a cat bond**, which gives additional incentivisation for governments to respond early to reduce losses and also to participate in investment returns when there is no loss event

## Mechanism Design

The three mechanisms are designed to clearly **identify and narrow the type of risk** to be covered, this brings more predictability to pricing

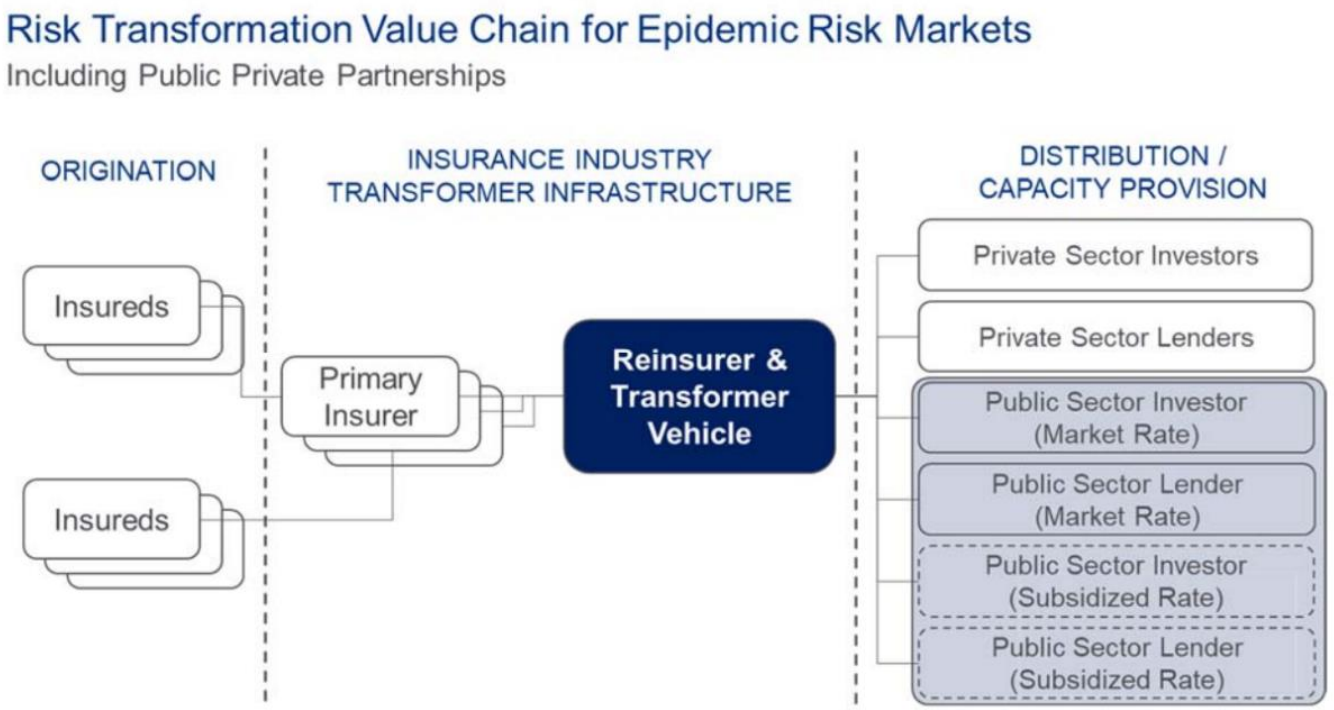
**Spark Risk Cover**

**Containment Financing**

**SME Business Interruption**

# Insurance Market Proposals Demonstrate Capacity is Available

- Innovation on infectious disease risk demonstrates appetite and ability to provide risk transfer
- One example is the Munich Re Epidemic Risk Solutions which is a Public-Private-Partnership to provide cost effective and affordable risk
- This particular example is aimed and SME cover, though the principle may be more broadly applied
- Public and private entities can provide capital to reduce costs paid by SMEs
- Public entities (e.g. ADB) could provide capital at subsidized rates, increasing the participation of private risk carriers
- The APEC Business Advisory Council recommended the inclusion of this proposal to Finance Ministers in August 2022




Source: Munich Re - Epidemic and Pandemic Risk Transfer Solutions and Options for Public Sector Support
Munich Risk and Insurance Center Working Paper No. 41

# The Need for Collaboration across Organizations and Countries

**Increased regional co-operation builds upon WHO National Action Plans for Health Security (NAPHS) plans and the CAREC Health team strategy[1].**

| Key Elements of an Epidemic Risk Financing Framework at the Country Level | |
|---|---|
| Public Health Infrastructure | Surveillance<br>Immunisation<br>Medical workforce<br>Hospital Capacity<br>Coordination |
| Physical Infrastructure | Water and Sanitation<br>Roads<br>ITC (Internet and Mobiles)<br>Logistics |
| Institutional Capacity | Political Stability<br>Corruption<br>Bureaucratic Effectiveness<br>Armed Conflict<br>Homicide<br>Vital Registration<br>Risk Analysis and Data |
| Financial Resources | Health Sector Budget (% of GDP)<br>Per Capita Income<br>Out of Pocket Health Spending<br>Resource Dependency<br>Health Insurance |
| Public Health Communication | Public Awareness<br>Risk Communication |

- A regional platform will enhance resilience and enable more efficient disaster risk response and financing, reducing cost and increasing efficiency for CAREC member countries and donors

| Requirement | Regional Platform Services |
|---|---|
| Ability to Prevent, Detect and Respond to Outbreaks | Strengthen Public Health Core Capacity |
| Access to Vaccines and Medical Counter Measures | Improve Access to Technology and Data |
| Understanding and Communicating Risks | Reinforcing Data Collections, Risk Analysis and Incentives for Action |
| Contingent Financing, Loans, Risk Sharing and Risk Transfer | Strengthening Financial Resilience and Financial Stability |
| WHO/UN/OIE Coordination and Response | Strengthening Global Mechanisms |
| Skills to Communicate and Manage Outbreaks | Enhancing Awareness, Capacity Building and Training |

Source:: Tables reformatted from ADB originals

[1] https://www.adb.org/sites/default/files/institutional-document/798371/carec-health-strategy-2030.pdf

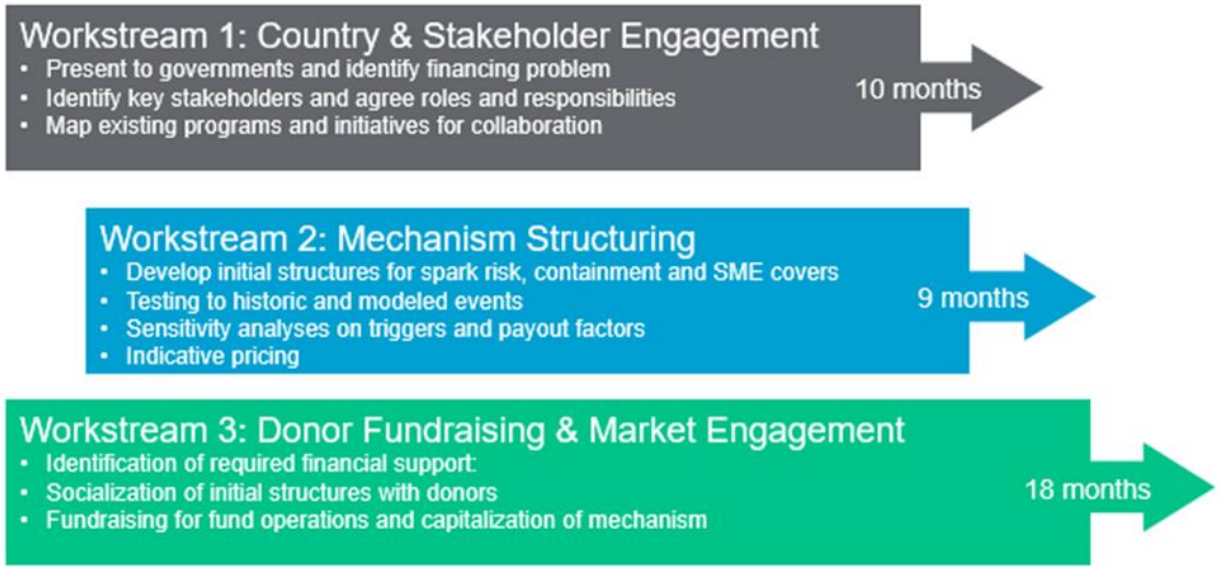
# Conclusions

- Fast response to an outbreak helps manage the overall impacts and costs of the event
- Infectious disease risk financing provides additional funding to governments quickly, augmenting dedicated cash funds for major events, to reduce disease spread and human and economic impacts
- The African Risk Capacity and the PEF are models for regional and global co-operation; the PEF cat bond paid, releasing valuable funding to vulnerable governments when needed
- Risk financing must be integrated with actions to strengthen the overall health system and improve response effectiveness,  this requires coordination with different entities
- Risk profiling, containment planning, and implementation capabilities are all pre-requisites to outbreak risk financing,  clear effective early response encourages the supply of affordable risk

# Next Steps

- During this TA landmark investigations[1] have concluded that solutions
- The G20 HLIP report recommends that
  - "(Multilateral development banks) should partner with countries to **incentivize and increase investments in pandemic preparedness** and **accelerate closing of critical health security gaps"**
  - "**Better coordination** within country and regional platforms will generate **greater impact** in pandemic PPR (prevention, preparedness and response), and **better integration** with other critical development needs"
- The G20 HLIP report notes current challenges:
  - "Any viable insurance solution will require that we **first do much better** at **improving the data, science, surveillance and analytics** needed to forecast, assess, and price pandemic risks"
  - "There may be **risk pooling solutions** between countries that can **enable better management of pandemic risk**:" with benefits noted as diversification, risk reduction and trancing and cost efficiencies

- Together **with the CAREC Health Working Group, WHO,** and **with the support of CAREC member countries**, a follow-up program is proposed, subject to donor support




[1]The Independent Panel for Pandemic Preparedness and Response and the G20 High Level Independent Panel (HLIP) on Financing the Global Commons for Pandemic Preparedness and Response

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