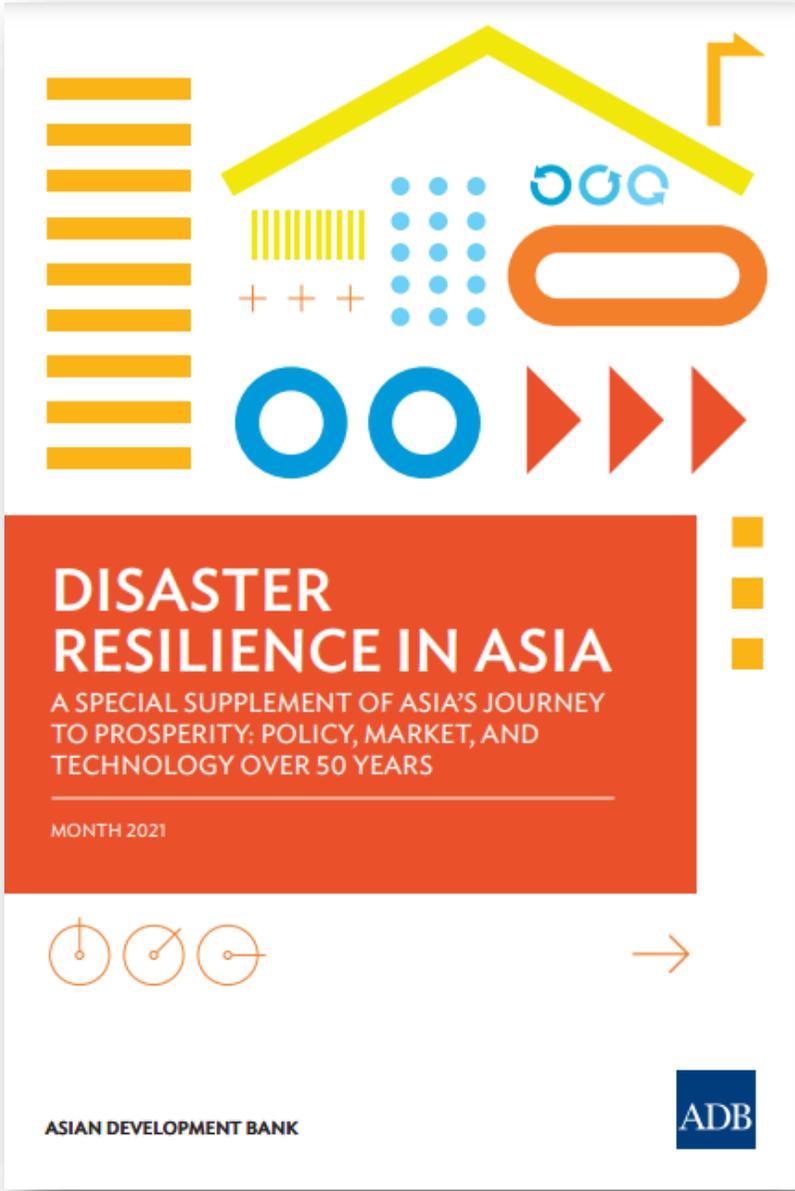
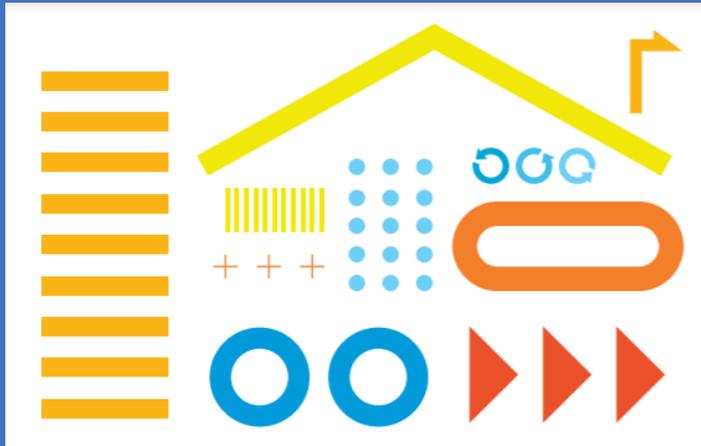


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DISASTER RESILIENCE IN ASIA

A SPECIAL SUPPLEMENT OF ASIA'S JOURNEY
TO PROSPERITY: POLICY, MARKET, AND
TECHNOLOGY OVER 50 YEARS

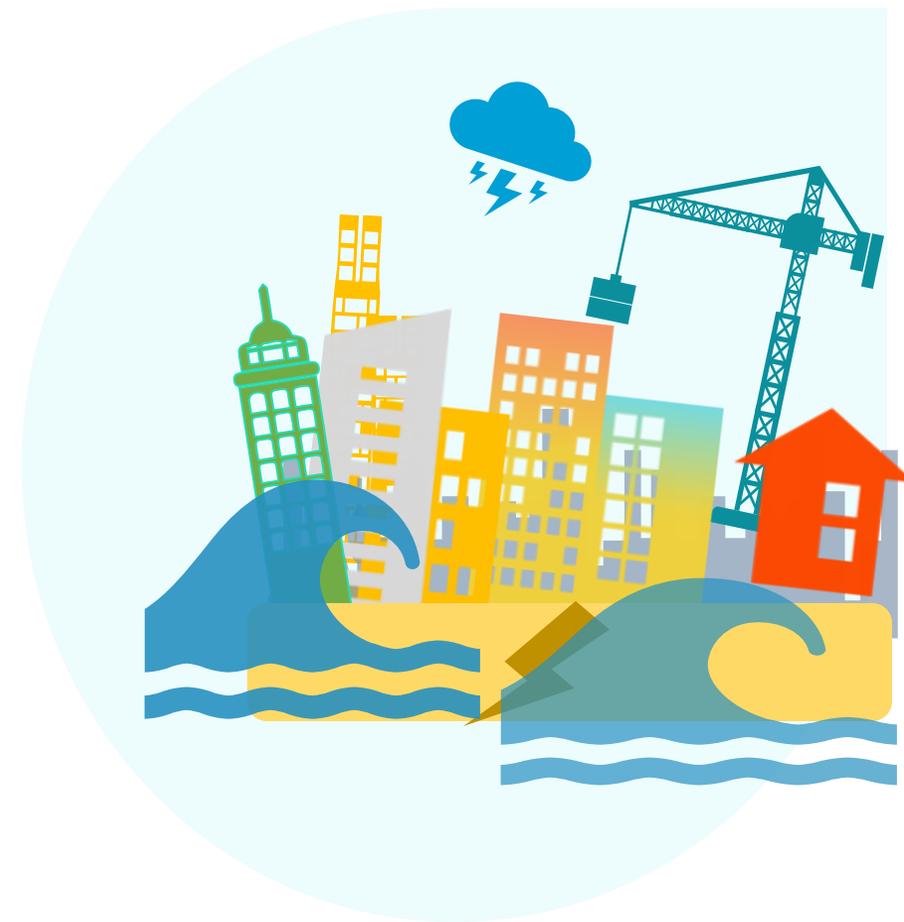
Outline

Part I: Disasters

1. Rising trend of disaster risk
2. The tremendous costs of disasters
3. Drivers of disaster risk
4. Asia's disaster resilience and risk management over the last 50 years

Part II: The COVID-19 Disaster

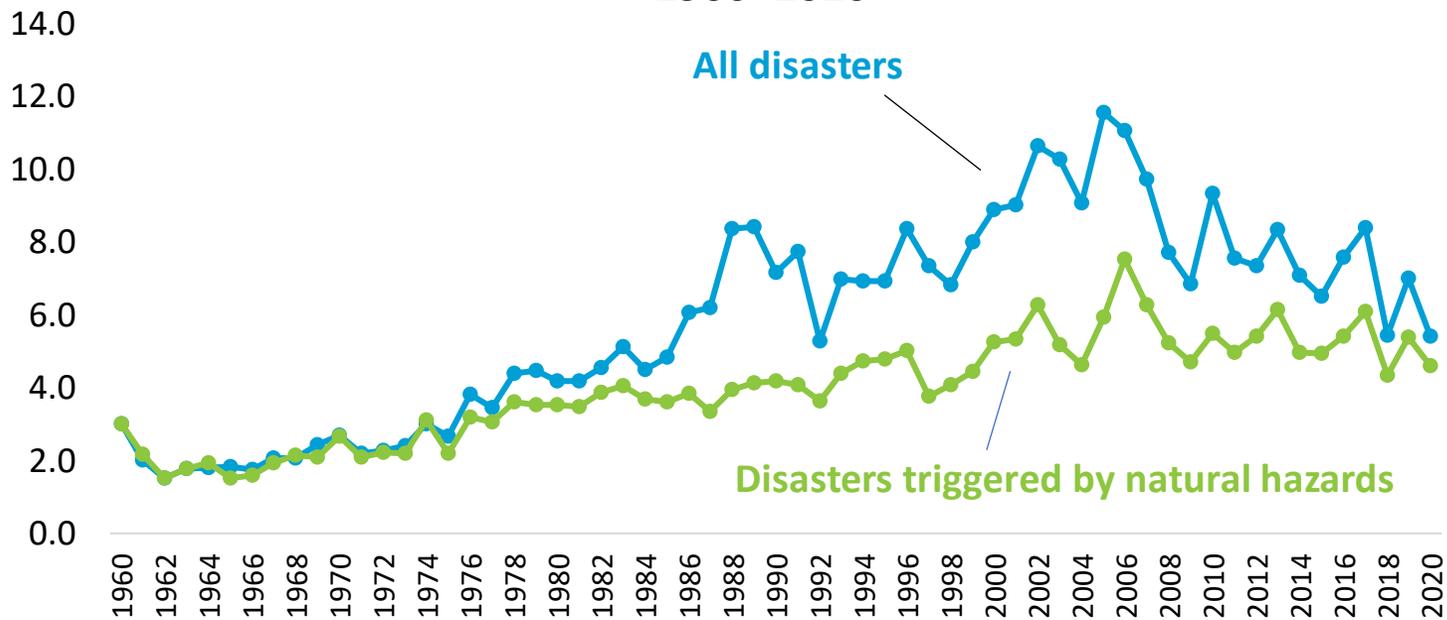
5. COVID-19—A global health crisis
6. Economic impact
7. Government responses
8. Looking ahead
9. Questions and further readings



Rising trend of disaster risk

- Across developing Asia, disasters triggered by natural and technological hazards increased, in terms of national average disaster occurrence per year, from 1960 to 2005. It has generally been on a downward trend since then.

Disaster Occurrence, Natural and Technological, Developing Asia, 1960–2020



- Disasters triggered by natural hazards may not be entirely caused by nature, but by a combination of natural hazards and human behavior that increases exposure or vulnerability.

Notes: Disasters are either natural or manmade. Figures are simple averages of number of disasters in developing Asian economies with at least one disaster occurrence per year.

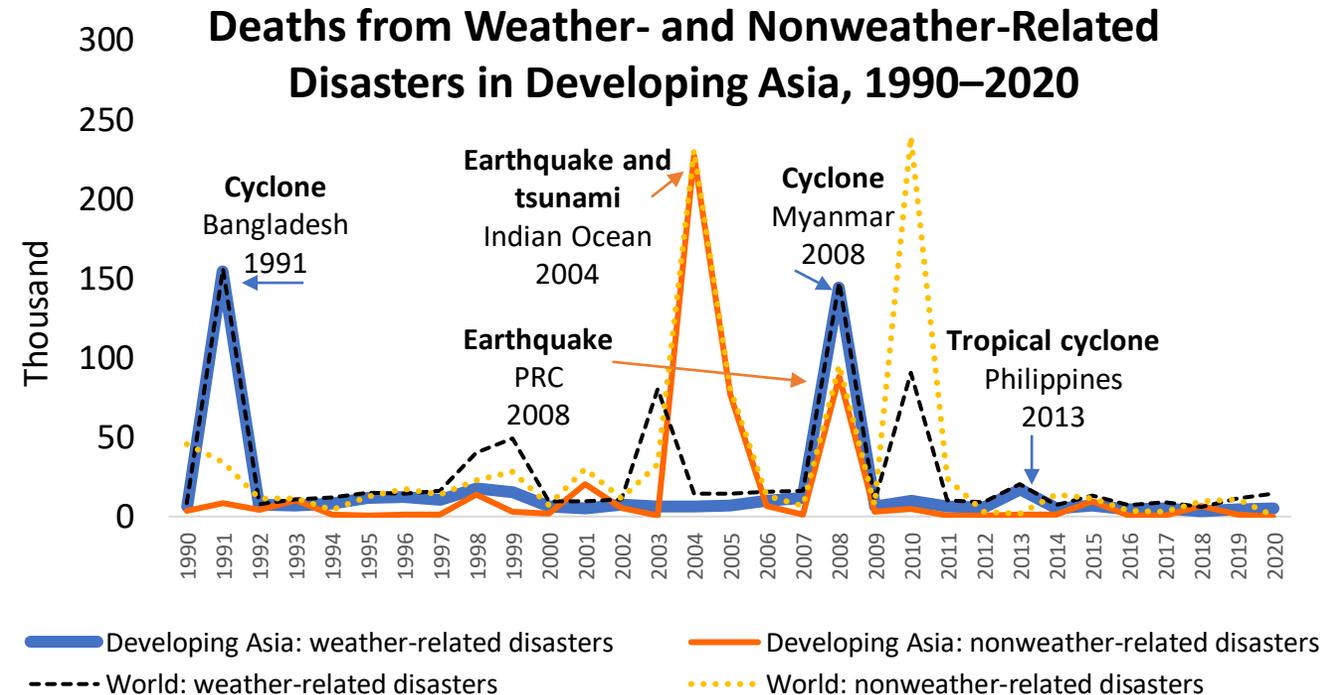
Source: ADB estimates using EM-DAT: The Emergency Events Database - Université Catholique de Louvain (UCL) - CRED, D. Guha-Sapir - www.emdat.be, Brussels, Belgium. Accessed on 25 January 2021.

The tremendous cost of disasters

- At least **4 in every 5** people **affected** by **natural hazards** live in developing Asia.
- Between 1960 and 2020, the region accounted for **85%** of the number of **affected persons**, **65%** of the **death toll**, and **27%** of **damage** from global disasters triggered by natural hazards.

Most Devastating Disasters in Developing Asia (number of deaths), 1990–2020

	Disaster	Deaths
1	Indian Ocean earthquake and tsunami, 2004	226, 096
2	Cyclone Gorky in Bangladesh, 1991	138, 866
3	Cyclone Nargis in Myanmar, 2008	138,366
4	Earthquake in the People's Republic of China, 2008	87,476
5	Earthquake in Pakistan, 2005	73,338



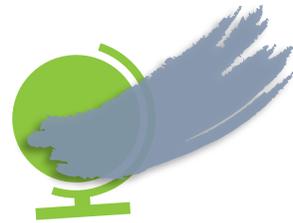
Drivers of disaster risk

- In developing Asia, exposure to disaster risk has risen over the last half century due to growing populations and economic growth.



The region's economic transformation has led to greater **concentration** of assets and people in high-risk locations, including coastal areas and densely populated megacities.

- The 2011 flood in Greater Bangkok incurred more than \$46.5 billion in damages, making it the costliest flood ever documented globally.



In very extreme natural hazards, **exposure** plays a larger role than vulnerability in determining the extent of disasters, regardless of the inhabitants' income, race, or social class.



Higher income-economies with stronger **institutions** however tend to have lower vulnerability to disasters. Meanwhile, poverty increases vulnerability, and is intricately linked with other underlying factors, making it both a driver and a consequence of disaster risk.

Asia's disaster resilience and risk management over the last 50 years

Evolving Approaches to Disaster Risk Management

Knowledge

Action

Yokohama

Kobe

Sendai, Paris, and SDG Debates



Supporting transitions on "unnatural" disaster risk

Fostering integrated risk management transitions

Climate risk management

Synergistic risk and development transformations

Disasters avoided and managed as part of development

Knowledge gaps

How to measure risk and how relevant is it across scales?

What are development implications of disaster risk?

What are synergies of tackling climate change and disaster risk?

How to broadly integrate disaster and climate resilience with development?

Knowledge generated

Understanding modeling risk decision tools, risk preference

Socioeconomic risk, risk financing, costs and benefits of DRR

Multiple criteria analysis, methods for participatory learning

Multiple dividends across DRR, climate, and development domains

DRR= Disaster risk reduction, SDG=Sustainable Development Goal

Source: Mechler, R., and S. Hochrainer-Stigler. 2019. [Generating Multiple Resilience Dividends from Managing Unnatural Disasters in Asia: Opportunities for Measurement and Policy](#). ADB Economics Working Paper Series No. 601.

Outline

Part II: The COVID-19 Disaster

5. COVID-19—A global health crisis
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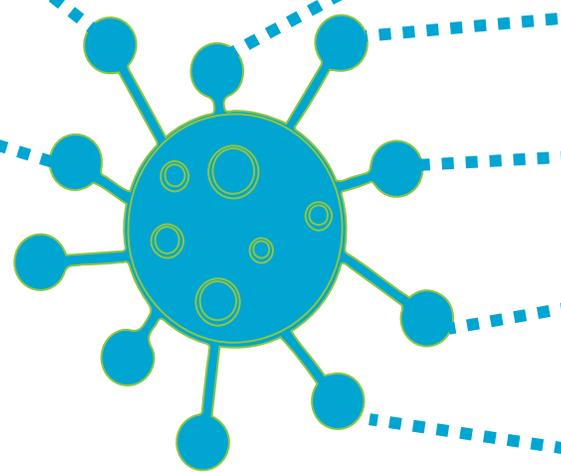
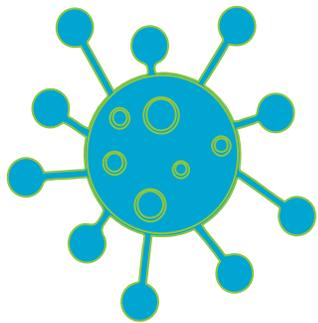
Economic impact

- The ongoing COVID-19 outbreak affected economies through numerous channels.

Health effects

Increased morbidity

Increased mortality



Economic effects

Sharp declines in domestic consumption → severe declines in business sales and investment spending declines

Cessation in tourism and business travel due to border closures

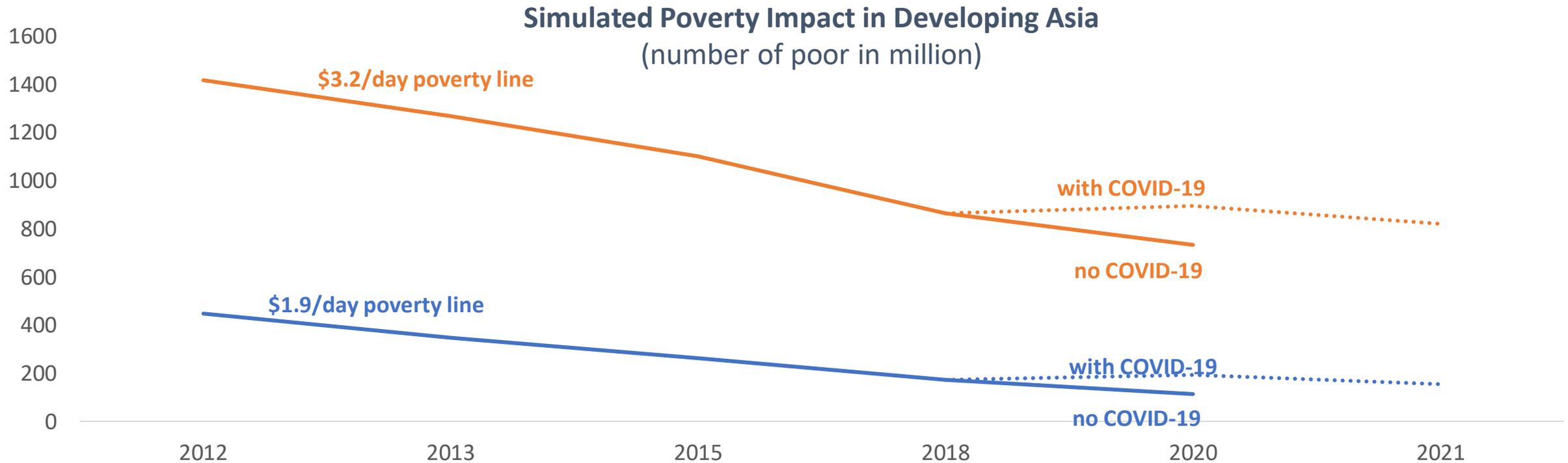
Spillovers of weaker demand to other sectors and economies through trade and production linkages

Supply-side disruptions to production and trade

Demand-side shocks spilling over through trade and production linkages

Economic impact

- The crisis could reverse years of progress toward eliminating poverty in developing Asia.



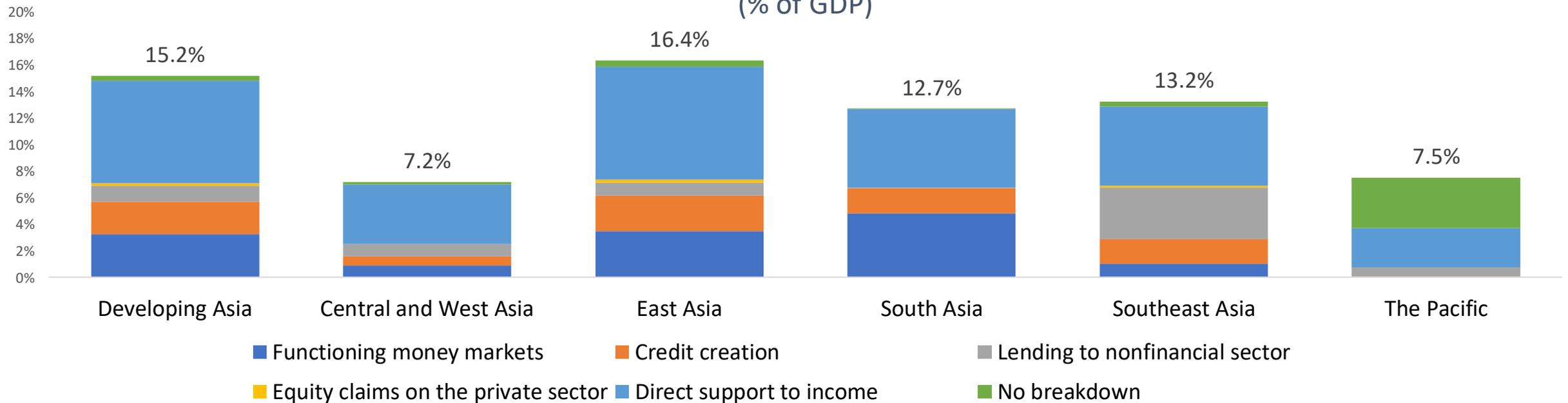
Notes: Developing Asia refers to the average of 34 ADB developing members. For 2018, India's estimates were based on extrapolations using World Bank's model-based mean per capita expenditure in 2015, GDP per capita growth rates between 2015 and 2018, and distribution based on the 2011–2012 household consumption survey.

Source: Bulan, J., R. Hasan, A. Martinez, and I. Sebastian. 2020. "COVID-19 and Poverty: Some Scenarios." Unpublished note prepared for the Economic Research and Regional Cooperation Department, Asian Development Bank. Manila.

Government responses

- Governments around the world have taken steps to mitigate the economic impacts. Nevertheless, the extent of policy packages has been uneven across developing Asia.

Packages Announced in Developing Asia, by Subregion and Policy Measure
(% of GDP)



GDP = gross domestic product

Notes: Data as of 11 January 2021. Sources: [ADB COVID-19 Policy Database](#), accessed on 16 January 2021. For the database, see Felipe, J. and S. Fullwiler. 2020. [ADB COVID-19 Policy Database: A Guide](#). *Asian Development Review* 37(2): 1–20.

Looking Ahead

- While in the last 50 years, developing Asia has achieved much progress in the design and implementation of strategies for the abatement of risks stemming from natural hazards, several challenges remain.

1 First, higher **spending on disaster prevention and preparedness** (instead of disaster response) can potentially provide multiple development benefits even in normal times (e.g., tsunami shelters as classrooms or community centers).

2 Second, carefully **planning, designing, and investing in climate-resilient and disaster-resilient infrastructure** from the beginning dramatically reduces the exposure and vulnerability to disaster risk (from both frequent and rare events).

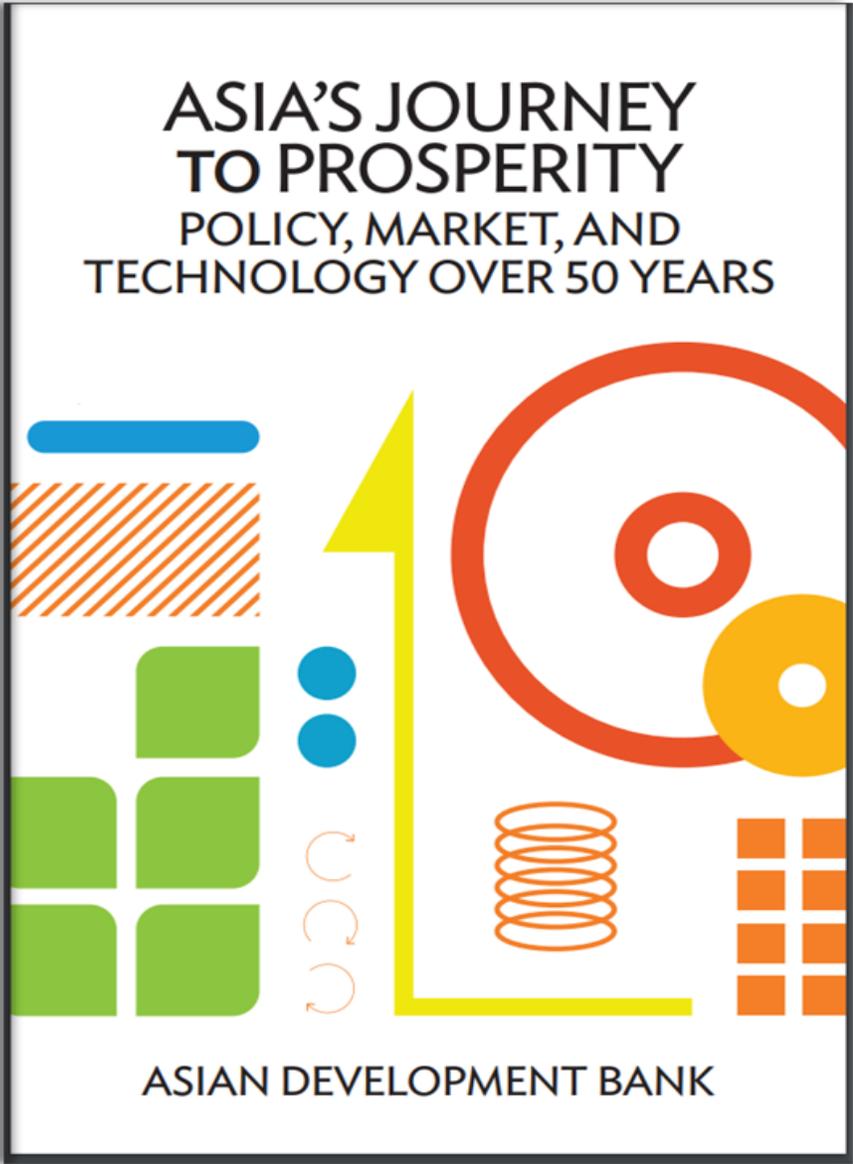
3 Third, **insurance mechanisms** in developing Asia need to be made more broadly available and accessible.

4 Fourth, it is important to **engage the community** in planning for disaster reduction, response, and recovery. The action of the community, as first responders to disasters, should complement national efforts.

5 Fifth, comprehensive planning and strategies for reconstruction—**rebuilding better**—stresses the safety, timeliness, inclusion, climate resilience, and the full realization of economic potential.

6 Finally, disaster recovery should apply **new technologies and innovations** to be inclusive and equitable across all segments of society, particularly the most vulnerable and disadvantaged.





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