

Disaster risk reduction and COVID-19 pandemic: Changing policy perspective

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"Lessons learned during the unprecedented pandemic situation"

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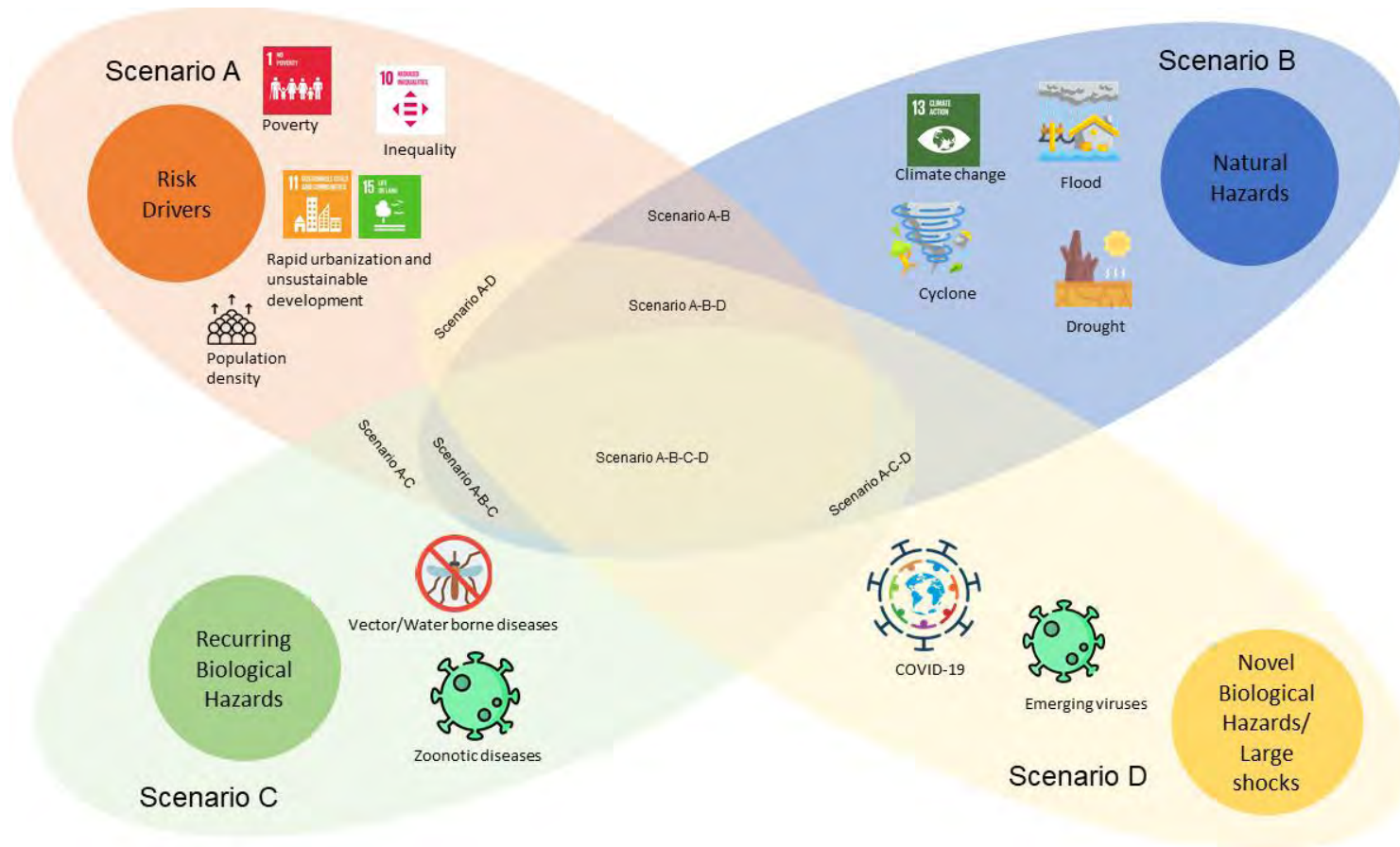
24-25 November 2020
Beijing



Cascading risks

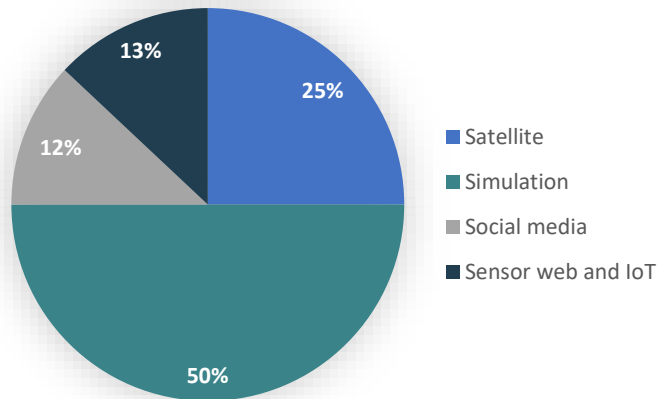
***– climate extreme, COVID-19 and
vector/water-borne diseases***

CASCADING SCENARIO

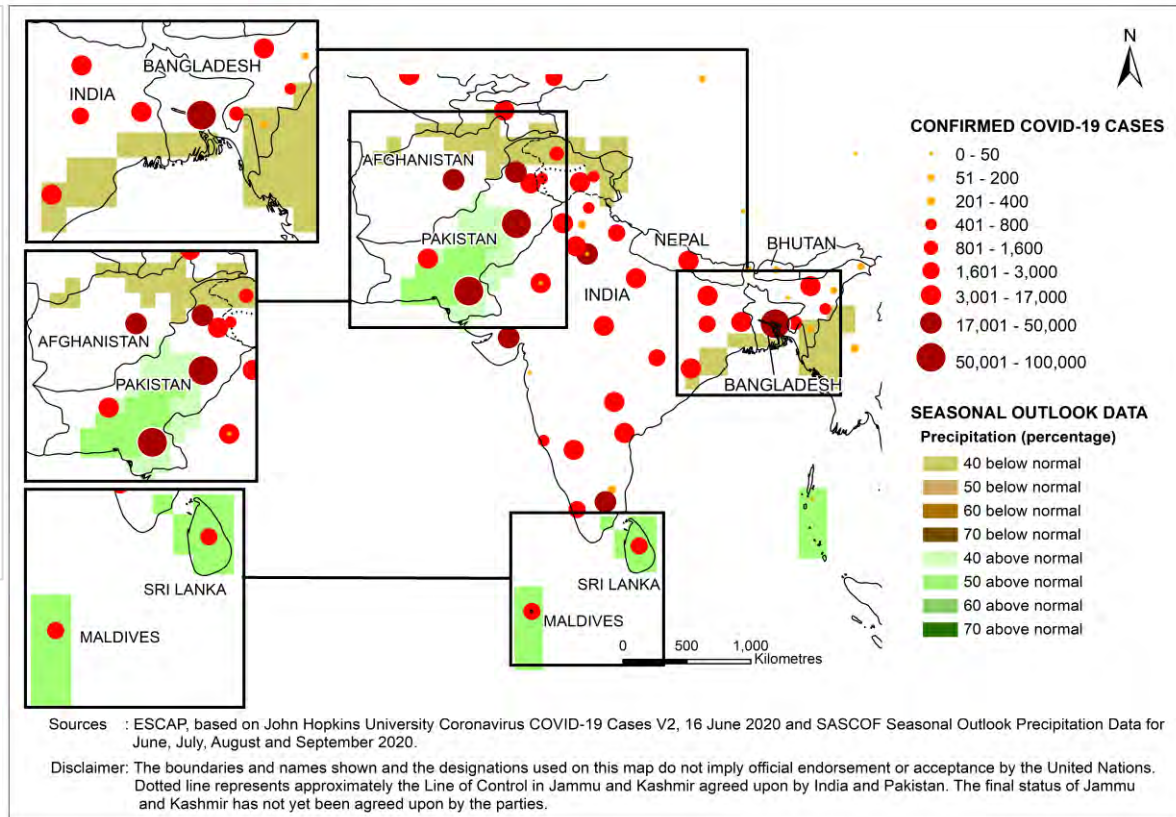


Predictive analytics for visualizing cascading risk scenarios

Predictive Analytics: Prediction and forecasting

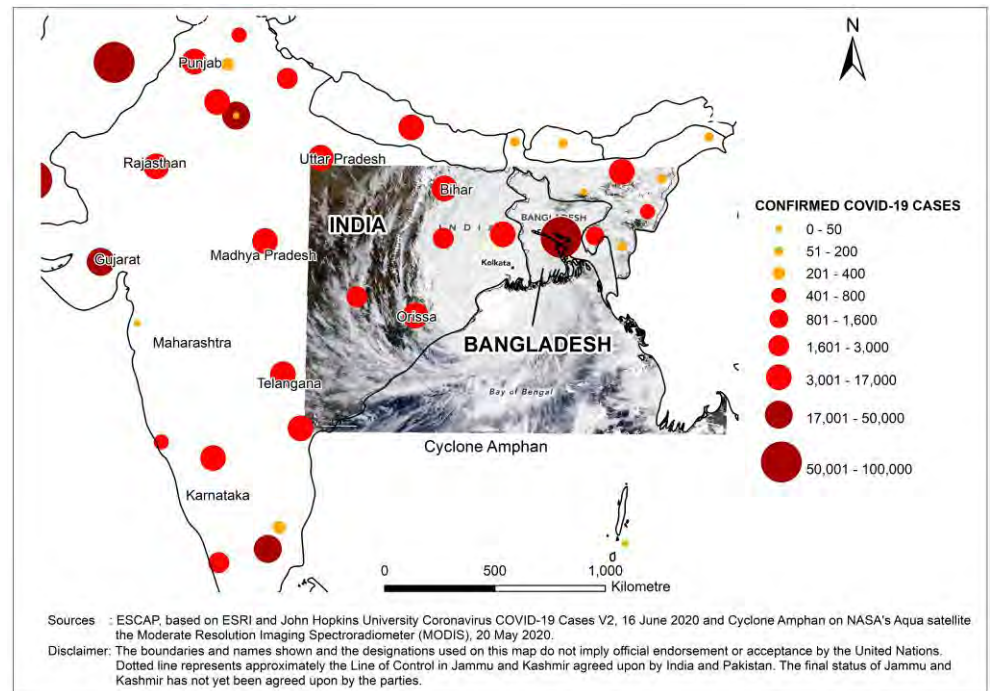
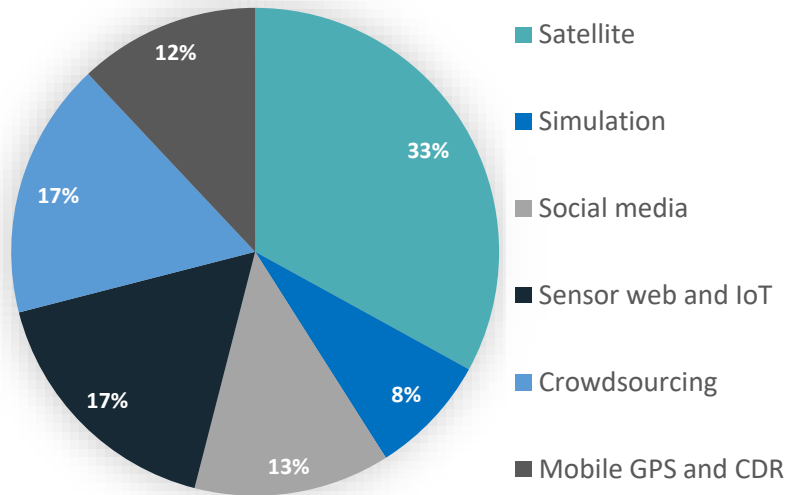


Data sources and platforms



Prescriptive analytics for visualizing cascading risk scenarios

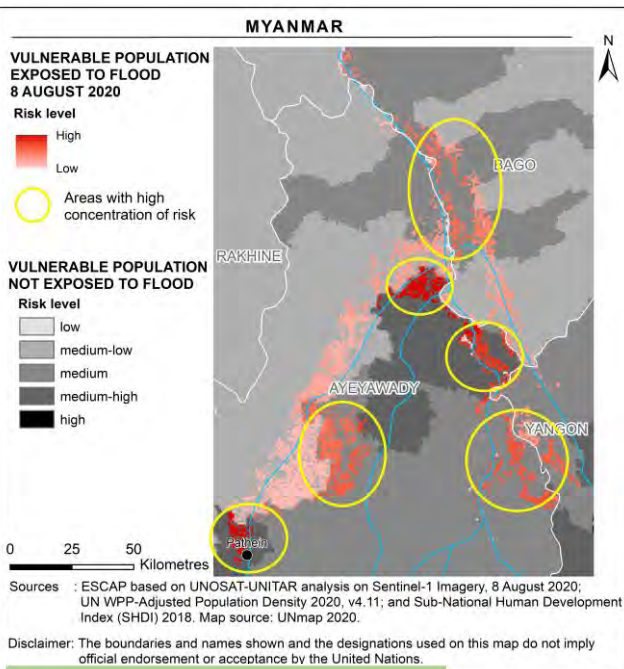
Multi-hazard Risk Assessment and risk informed policies (data sources/platforms)



Cyclone Amphan colliding with COVID 19

SCENARIO 1: Risk Hotspots

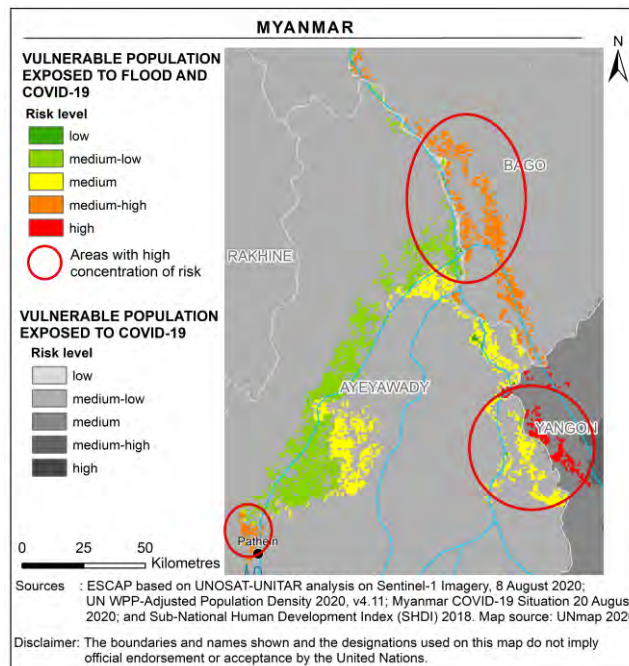
Flood affected vulnerable populations



State / Region	District	Flood Extent (km ²)	Total Population in AOI	Population Potentially Exposed	Percentage of Population Potentially Exposed in AOI (%)
Ayeeyarwady	Hinthada	770	1,049,020	108,000	10
	Maubin	200	874,309	33,000	4
	Patheingyi	1,120	1,061,590	173,000	16
Bago (West)	Pyaw	65	704,473	7,850	1
	Thayawady	530	868,892	75,100	9
Yangon	Yangon (North)	125	430,670	19,077	4
		2,810	4,988,953	415,827	8

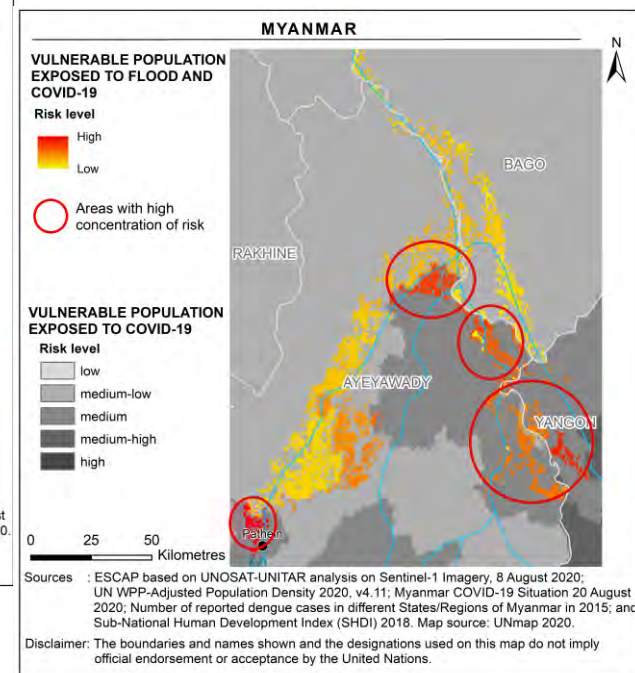
SCENARIO 2: Cascading Risks

Flood affected vulnerable confronting with COVID-19



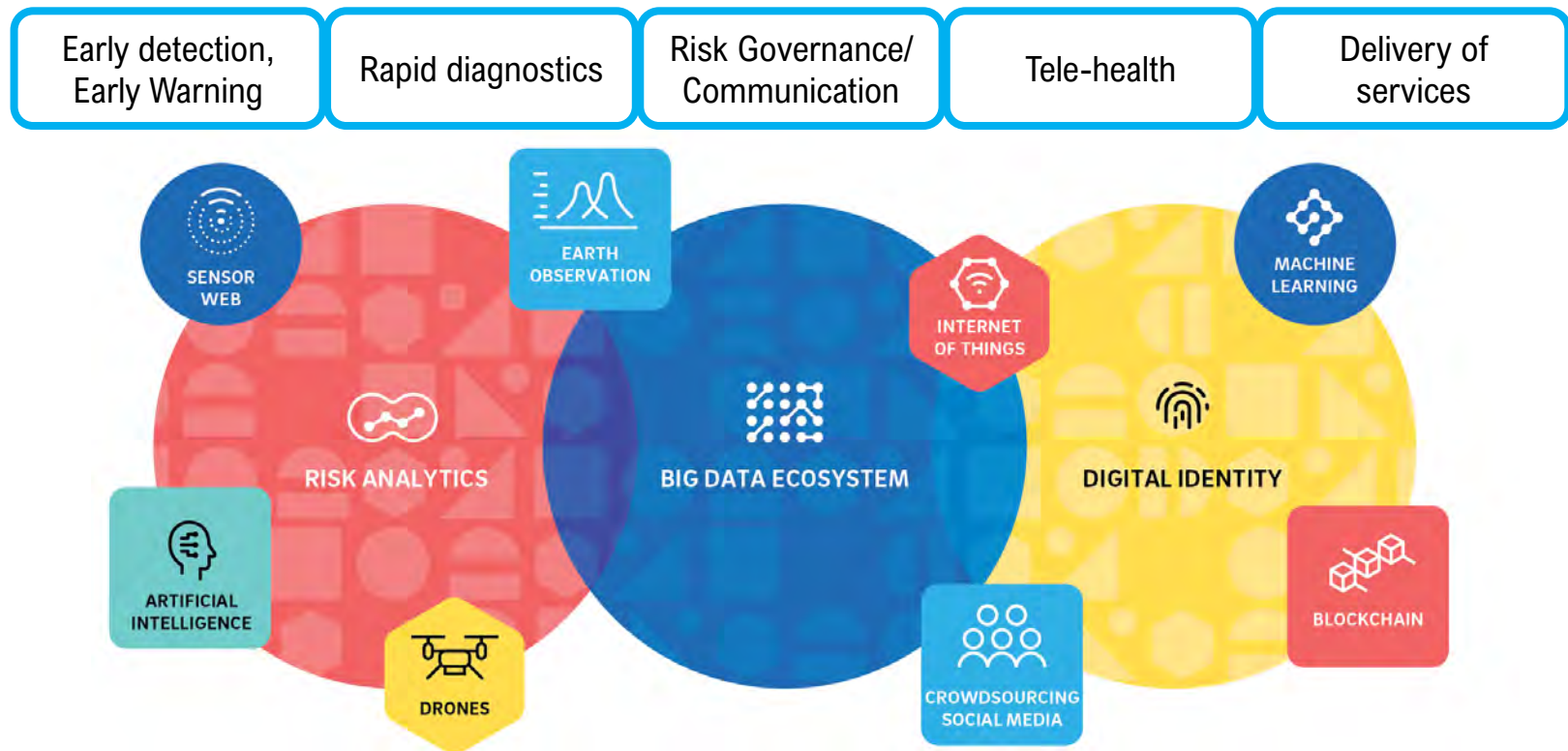
SCENARIO 3: Systemic Risks

Vulnerable in midst of floods and COVID-19 and @ risk of vector-borne diseases



8 per cent of the population in 6 districts affected by flood UNOSAT-UNITAR, 2020

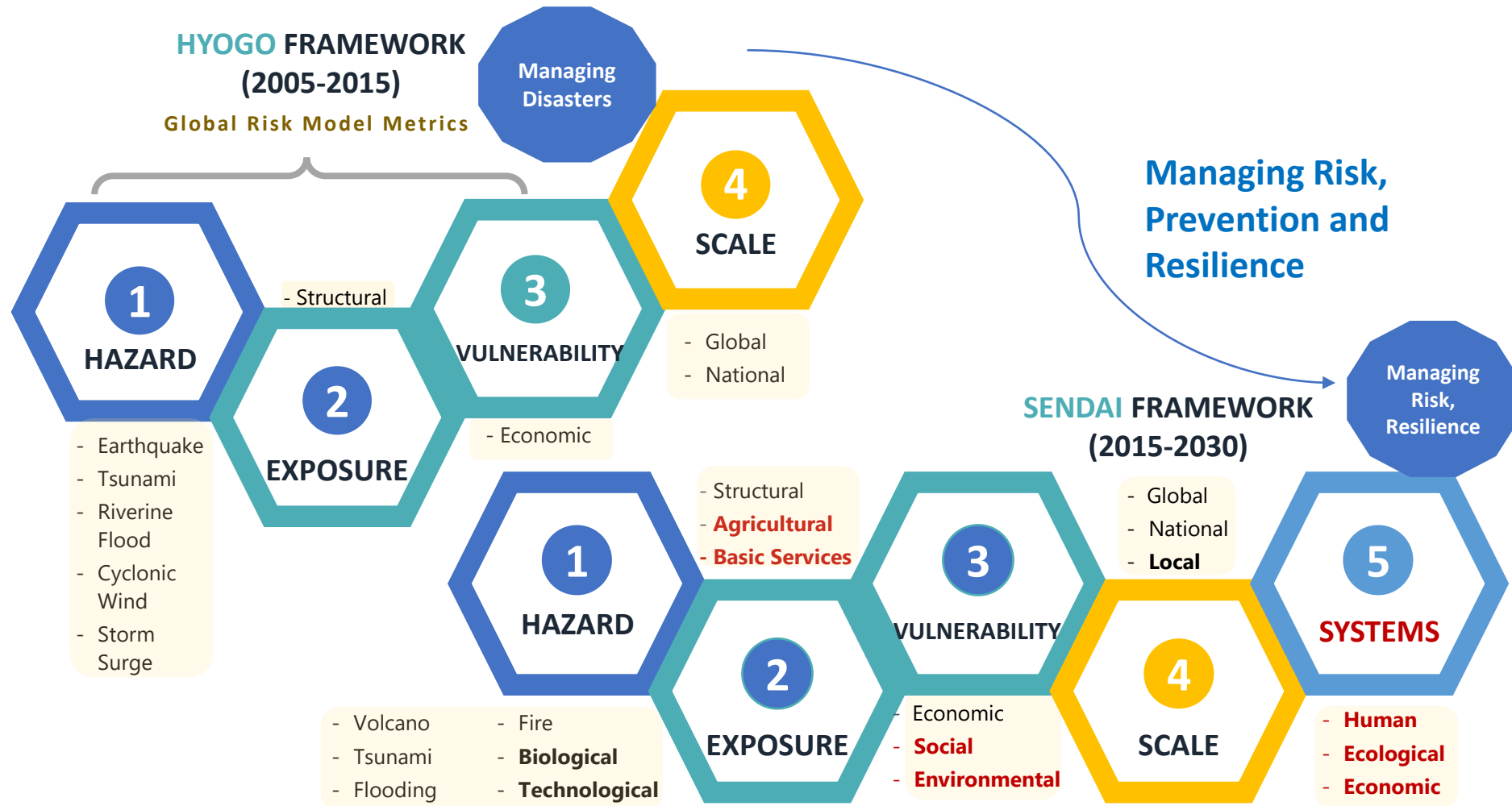
Key message: With high transmissibility and no effective vaccine or therapy, countries have maintained low COVID-19 per-capita mortality rates by adopting digital technology and integrating it into policy and health care



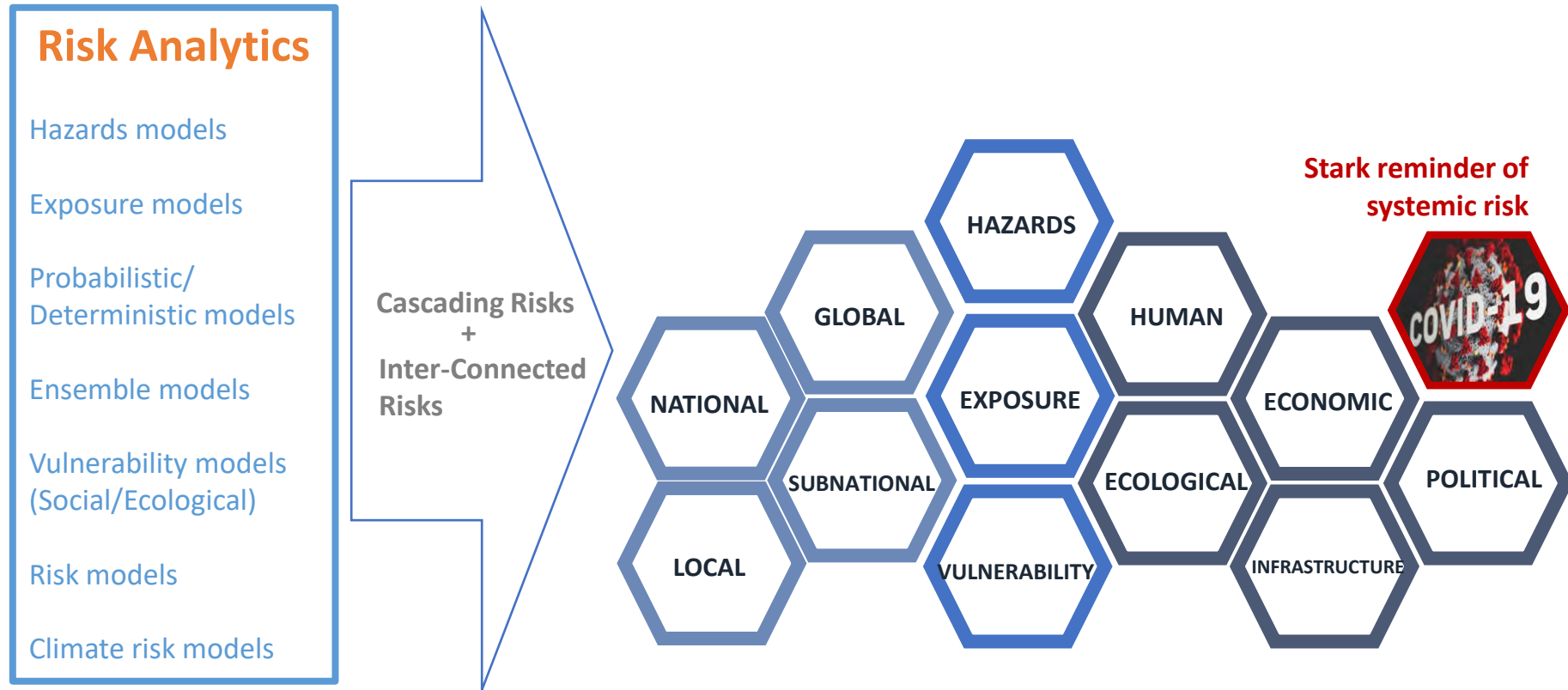
Systemic risks

***– Sendai Framework of Disaster
Risk Reduction 2015-2030***

System Approach for Building Resilience



Modeling Framework for Systemic Risks, Scenario-based Approaches



First,

Systemic risks are characterized by **high complexity**



Second,

Systemic risks are **transboundary** and **global** in nature.



Third,

Systemic risks are characterized by stochastic relationships between **trigger** and **effects**.



Fourth,

Systemic developments are **non-linear** and **include tipping points**.



Fifth,

Systemic risks are often **underestimated** in **public policy arenas** and **public perception** due to **uncertainties** of point of occurrence and extent of damage.



Sixth,

Established methods of science cannot identify the probability of occurrence. Instead, science utilizes **models of scenario building** to sketch out the stochastic nature of systemic risks.



Understanding Systemic Risks

- key to COVID-19 response and recovery

A Scenario Development Framework for Systemic Risks



How can systemic risk scenarios benefit stakeholders and enable policy response?

01. **Improve Understanding of Risks**
To understand the various dimensions of a specified risk that cause negative impacts

02. **Explore Emerging Futures**
To imagine and comprehend new, evolving, and novel combinations of risks.

03. **Address Uncertainty**
To expand understanding and define a range of plausible future outcomes

04. **Systems Thinking**
To capture the controlling interconnections between complex systems

05. **Support Decision Making**
To inform and enhance effective disaster risk management strategies

06. **Aid Communication**
To contextualize complex risks and facilitate stakeholder engagement

07. **Allocate Resources**
To plan what and where the effectively distribute resources

08. **Identify Biases**
To ensure viewpoints and decisions remain objective

UNESCAP

– Some related initiatives

Geospatial Practices for Sustainable Development in Asia and the Pacific 2020: A Compendium

**Launched on 18 November
@ GISTDA**





Asia-Pacific Disaster Resilience Network [APDRN]

1 Regional platform for Multi-hazard early warning systems

2 Knowledge for policy – Asia-Pacific Disaster Report, Policy Research

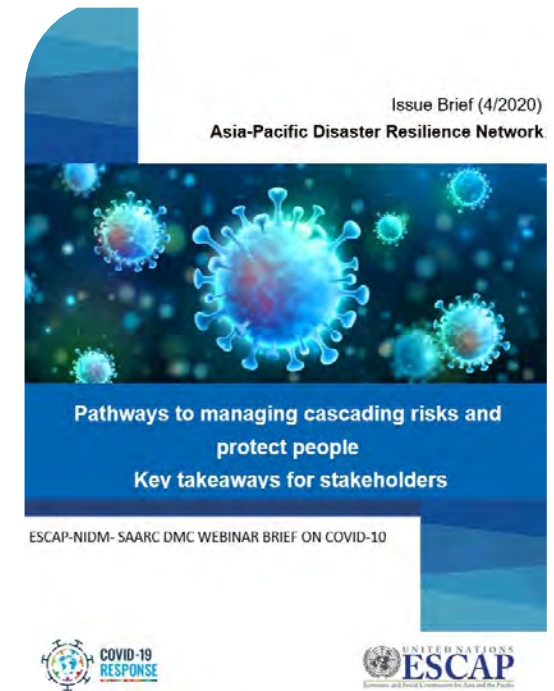
3 Technology innovations and applications

4 Data and statistics – Multi-hazard risk hotspot analysis

5 Disaster and health nexus – cascading impacts, systemic risks

Managing risks is key to resilient future of Asia-Pacific

The 'riskscape' is rapidly emerging to be systemic: it is complex and cascading, interconnected and cyclical. The COVID-19 pandemic is a stark reminder.



Intersection of COVID-19 with climate extremes aggravates crisis and slows down the recovery

Thank you for kind attention !

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