

# Impact of Compound Hazards on the urban poor

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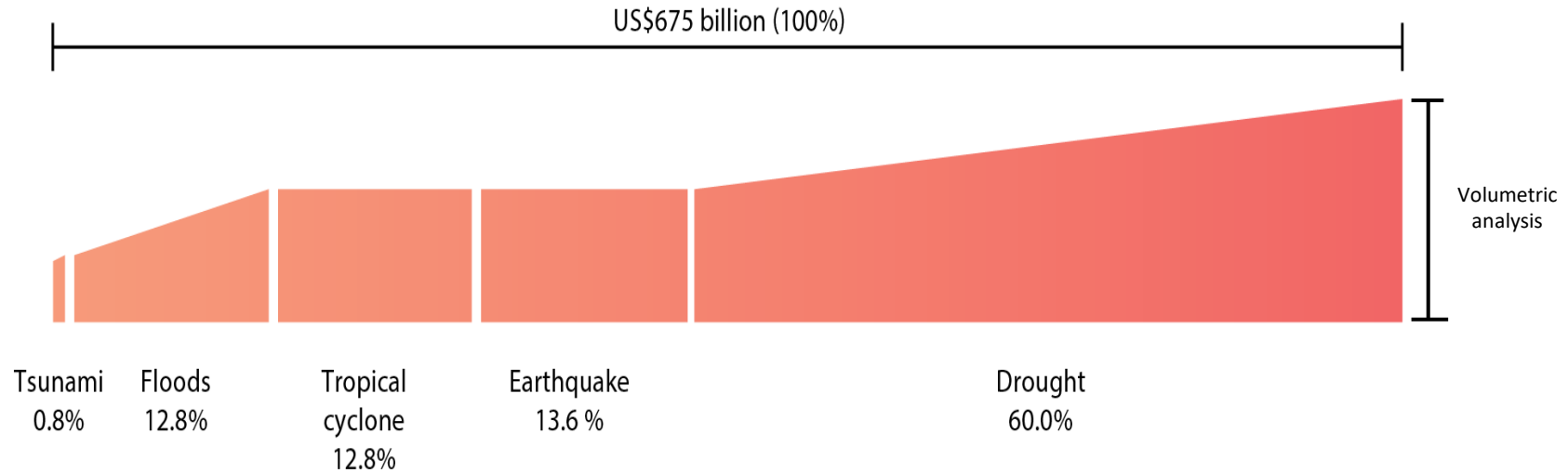
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State Secretariat for Economic Affairs SECO



# Asia-Pacific Disaster Riskscape :

## Annualized economic losses USD 675 billion – around 2.4 per cent of region's GDP

**Climate risk accounts for 85 per cent of the regional 'riskscape'**

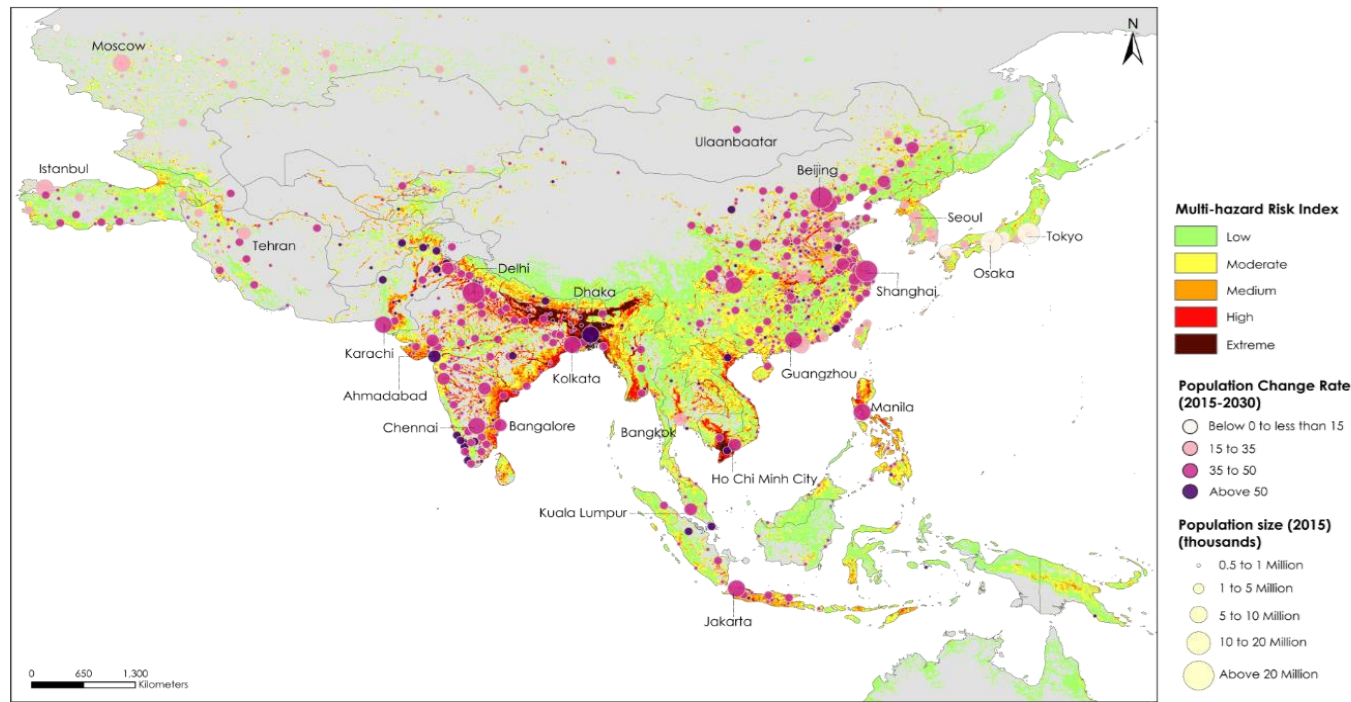


Source: ESCAP, Asia-Pacific Disaster Report 2019, Figure 1-1

# Message 1: Between 2015-2030, population will increase by more than 50 per cent in 26 cities in extreme high-risk areas

## As Asia-Pacific urbanizes, risk accumulates

170 cities fall in extreme risk category, 314 in high risk and 154 fall in in medium risk category



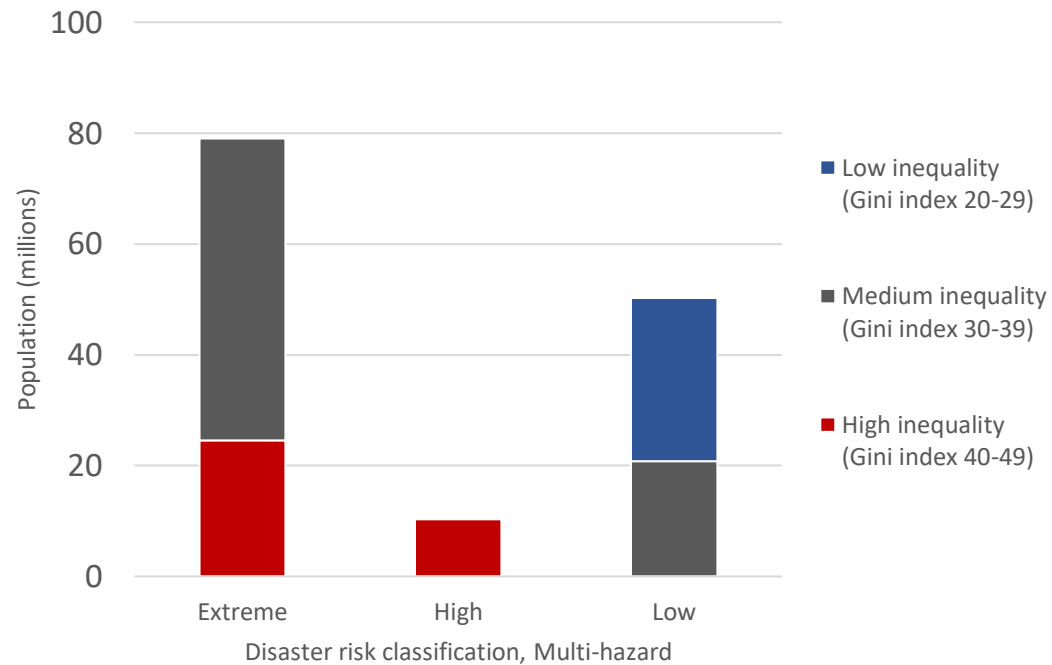
Source: ESCAP, Asia-Pacific Disaster Report 2017

# Message 2: Disaster risk widens inequalities in cities

In megacities located in areas with extreme disaster risk, **56 per cent of the populations live with medium or high levels of inequality.**

The results are similar for smaller cities

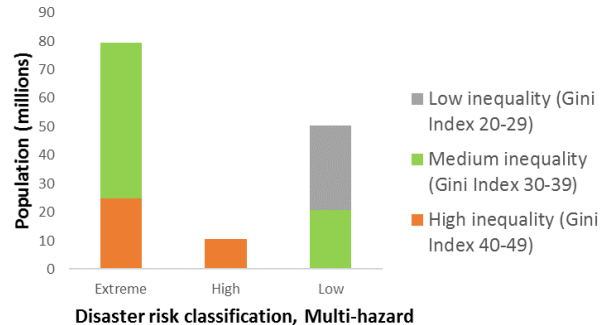
Relationship between number of disaster occurrences and Gini coefficient is quite significant in cities of Asia Pacific



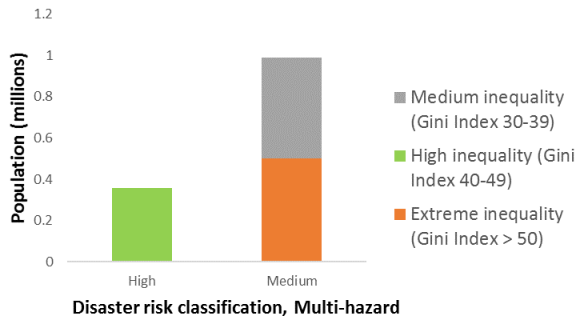
Source: ESCAP, Asia-Pacific Disaster Report 2017

# Message 2: Disasters widen inequalities in urban areas

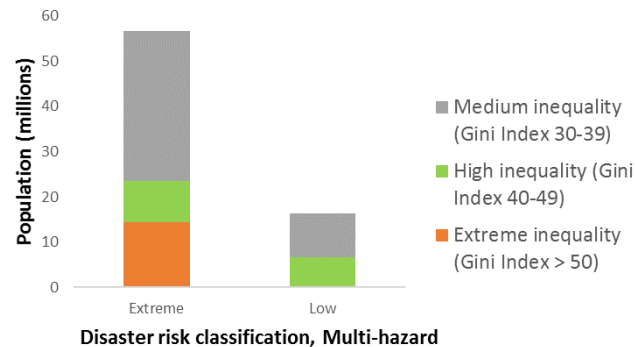
## Megacities of 10 million or more



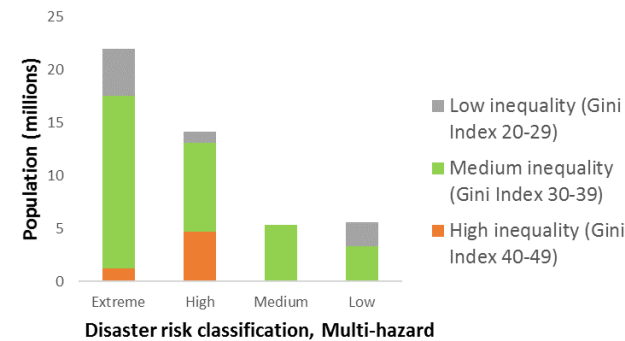
## Urban areas smaller than 500,000



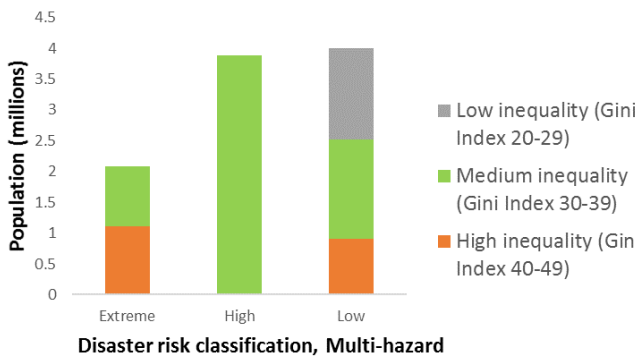
## Large cities of 5-10 million



## Medium sized cities of 1-5 million



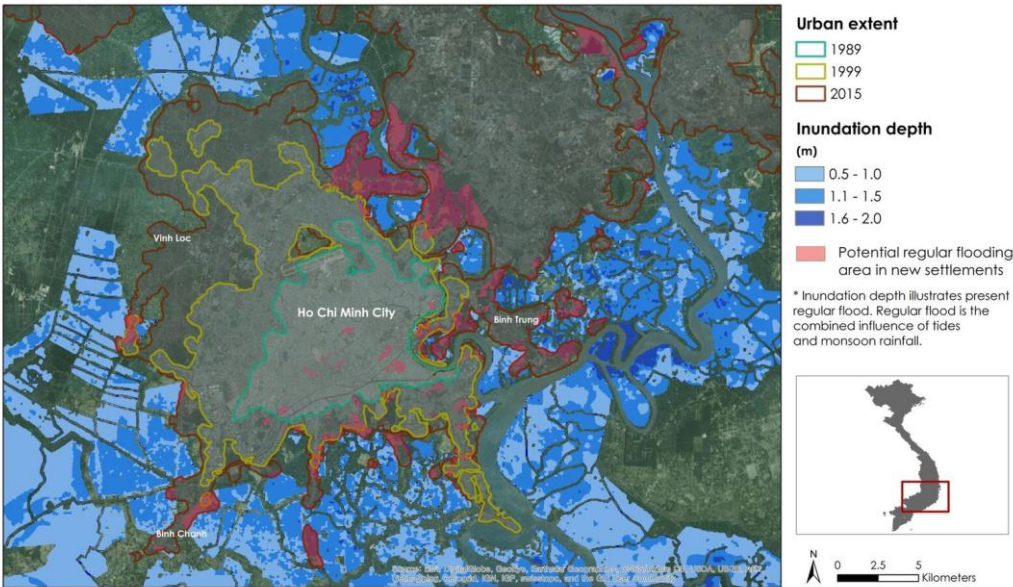
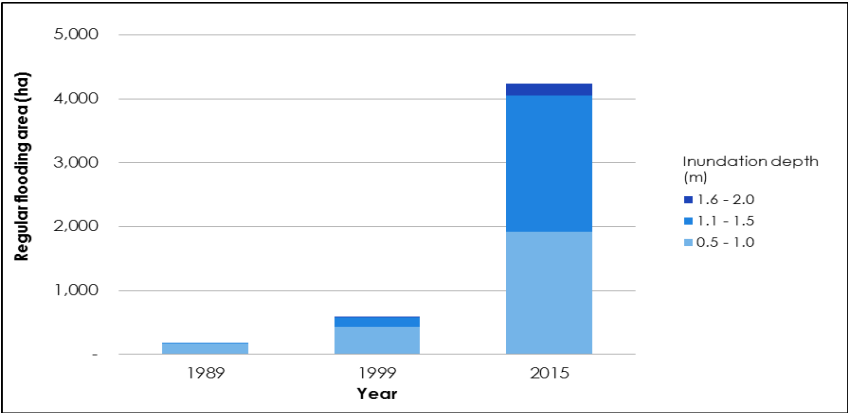
## Cities of 500,000-1 million



# Example 1: Urban expansion and increased flood risk in Vietnam

## Potential for regular flooding in new settlements, Ho Chi Minh City, Vietnam

As the available space is limited to accommodate the rapidly growing urban population, **residential neighbourhoods continue to develop in low-lying areas that are prone to regular flooding** (defined as inundation depth of less than two metres).



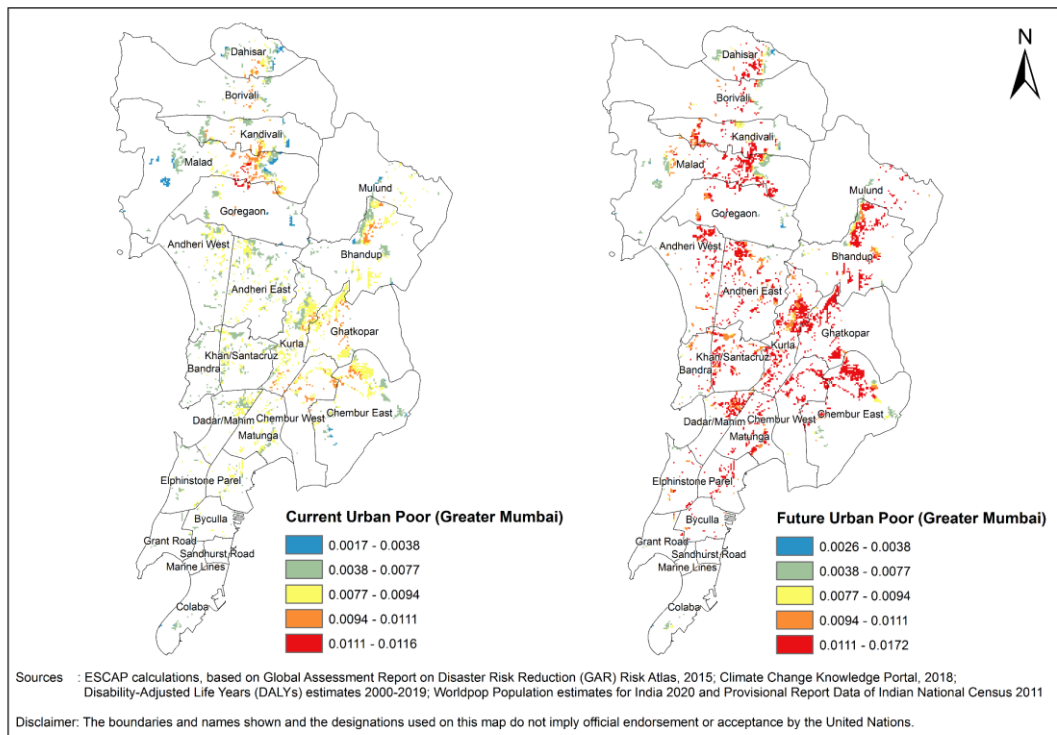
Source: ESCAP, Asia-Pacific Disaster Report, 2017

## Example 2: Under climate change, there will be increased exposure of people living in slums to multi-hazard and compound risks, Mumbai, India

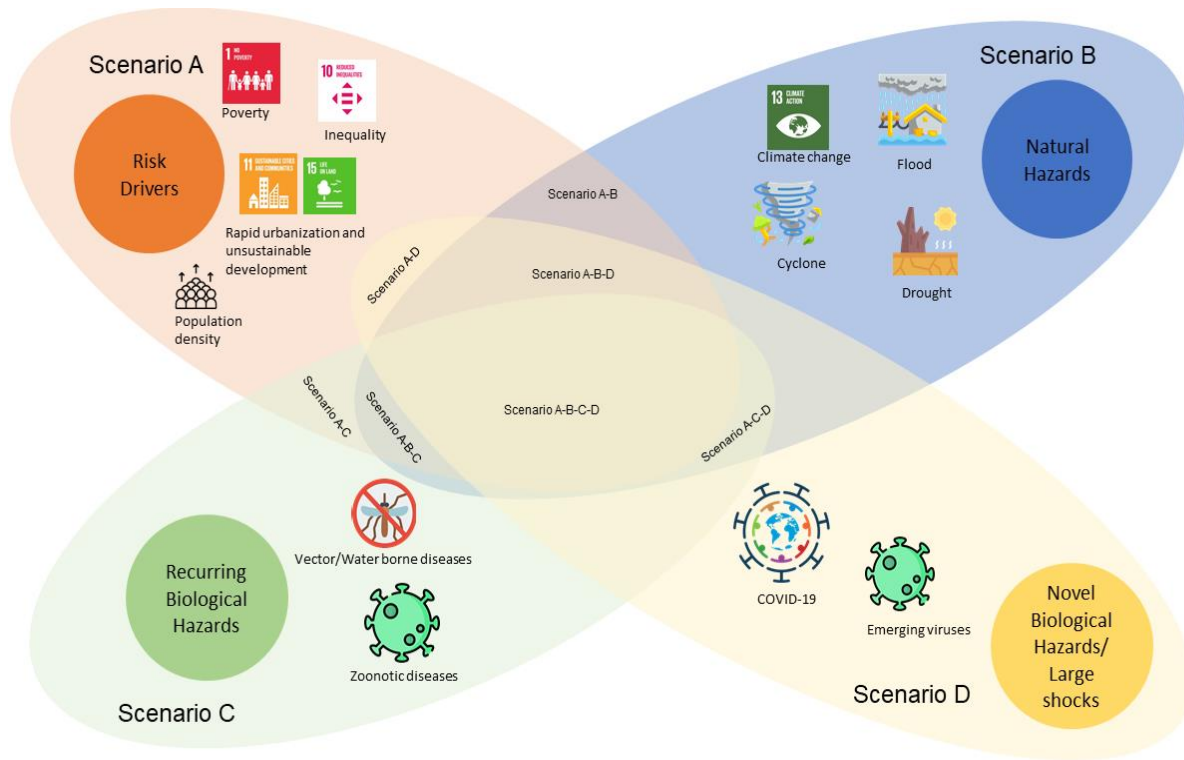
**Under moderate climate scenario (RCP 4.5) 2020-2039**, the hotspots of urban poor or the population living in slum areas exposed to multiple climate risks are located around Bhandup, Borivali, Chembur East, Chembur West, Dadar/Mahim, Dahisar, Ghatkopar, Goregaon, Kandivali, Kurla, Malad Wards.

**Under the worst-case climate scenario (RCP 8.5) 2040-2059**, the former hotspots are intensifying, and new hotspots appear around Andheri East, Andheri West, Bandra, Khan, Matunga, Mulund and Parel Wards.

**Increase in exposure of populations living in slum areas to multiple natural and biological hazards risk under two climate change scenarios**



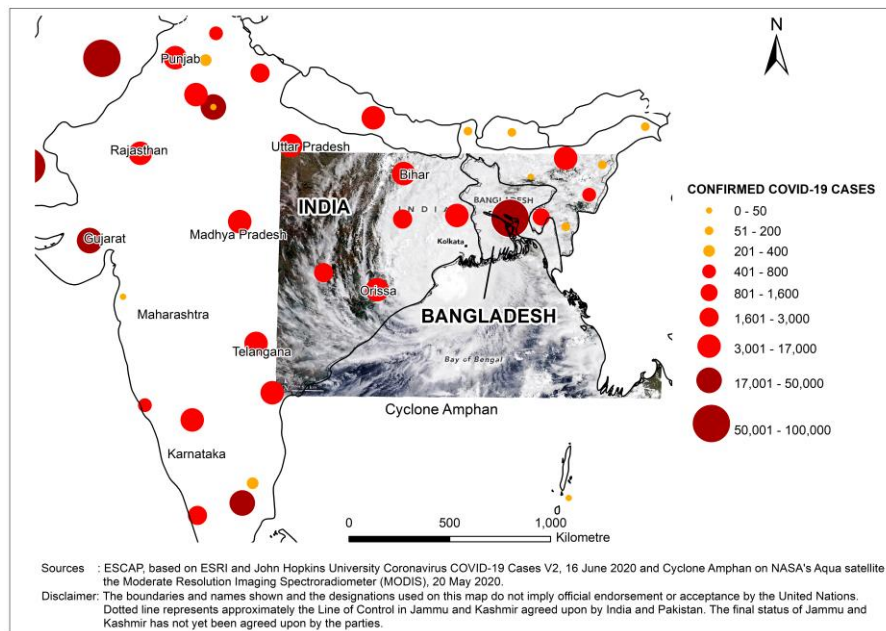
# Message 3: Cascading risk scenarios arise from intersection of climate extreme, COVID-19 and vector/water borne diseases



# Message 4: Cities are at forefront of disasters colliding with the pandemic

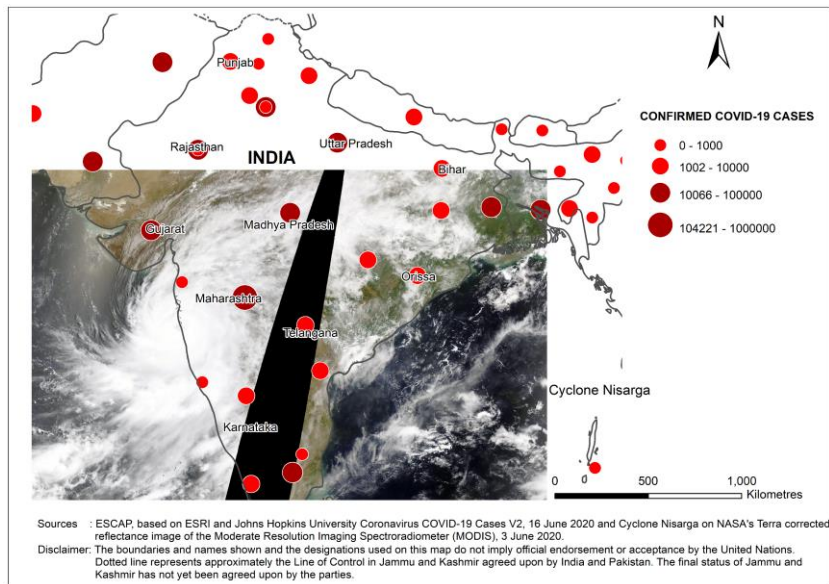
Disaster risk is rapidly emerging to be systemic: it is complex and cascading, interconnected and cyclical.

## Cyclone Amphan colliding with COVID 19

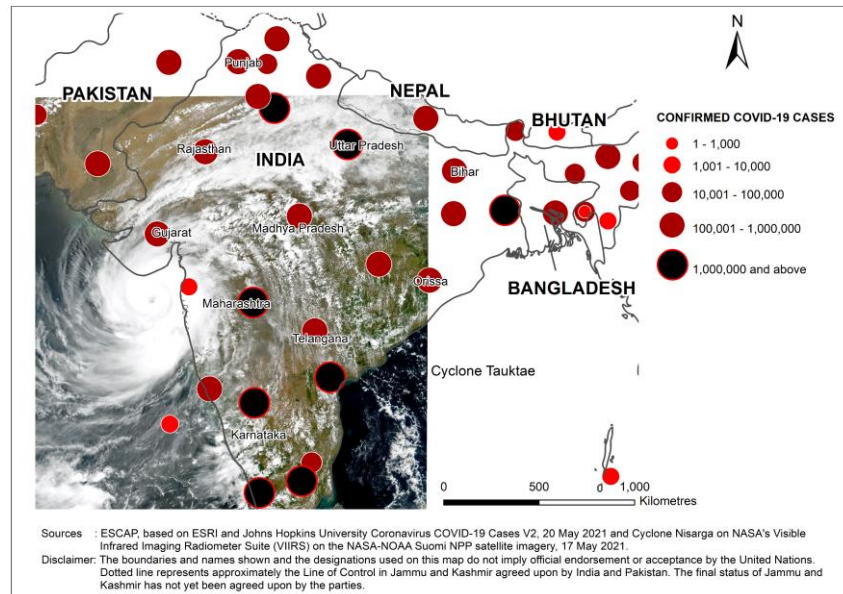


# How to manage overlapping hazards and cascading risks during the pandemic?

Collision of Cyclone Nisarga and COVID-19, 18 June 2020



Cyclone Tauktae and COVID-19, 17 May 2021



Source: ESCAP blog "Cyclone Tauktae: a perfect storm of climate change and pandemic", 28 May 2021.

# Solution 1: Lessons from the success story of Dharavi, Mumbai – Asia's biggest slum



Dharavi has an area of **2.1 square kilometers** and a **population of about 1,000,000** (a population density of over 277,136/km<sup>2</sup>). **Growth rate of positive cases dropped from 12% in April 2020 to 1.02% in June 2020**

01

## Risk Zoning

Dharavi was given a priority over other city parts, and 2,450 government health workers were engaged for it alone.

02

## Training and skill development of health workers for epidemic control

Basic epidemic control training to grass-root level health workers was given, and personal protective equipments (PPEs) were availed to all engaged personnel.

03

## 4Ts- Tracing, Tracking, Testing & Treatment

Large community quarantine centers were established. A vigorous approach of tracing, tracking, testing, and treatment (4Ts) was applied to limit the spread of the epidemic.

04

## Investment in Trust-Building

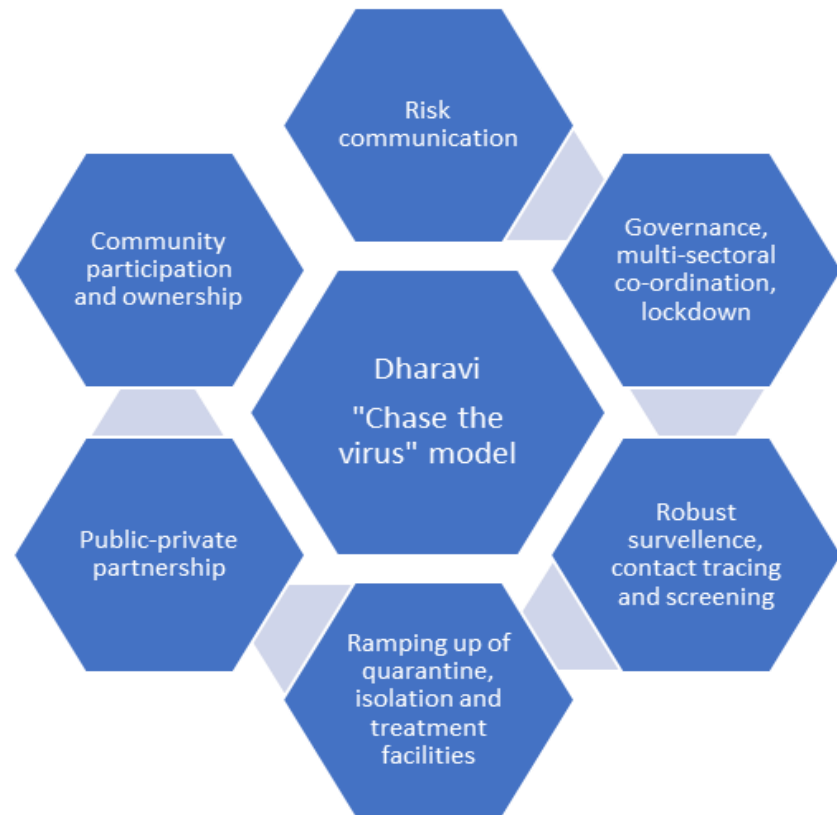
The investment was made in trust-building efforts to harness public support for ruthless containment measures.

# The Dharavi “chase the virus” model

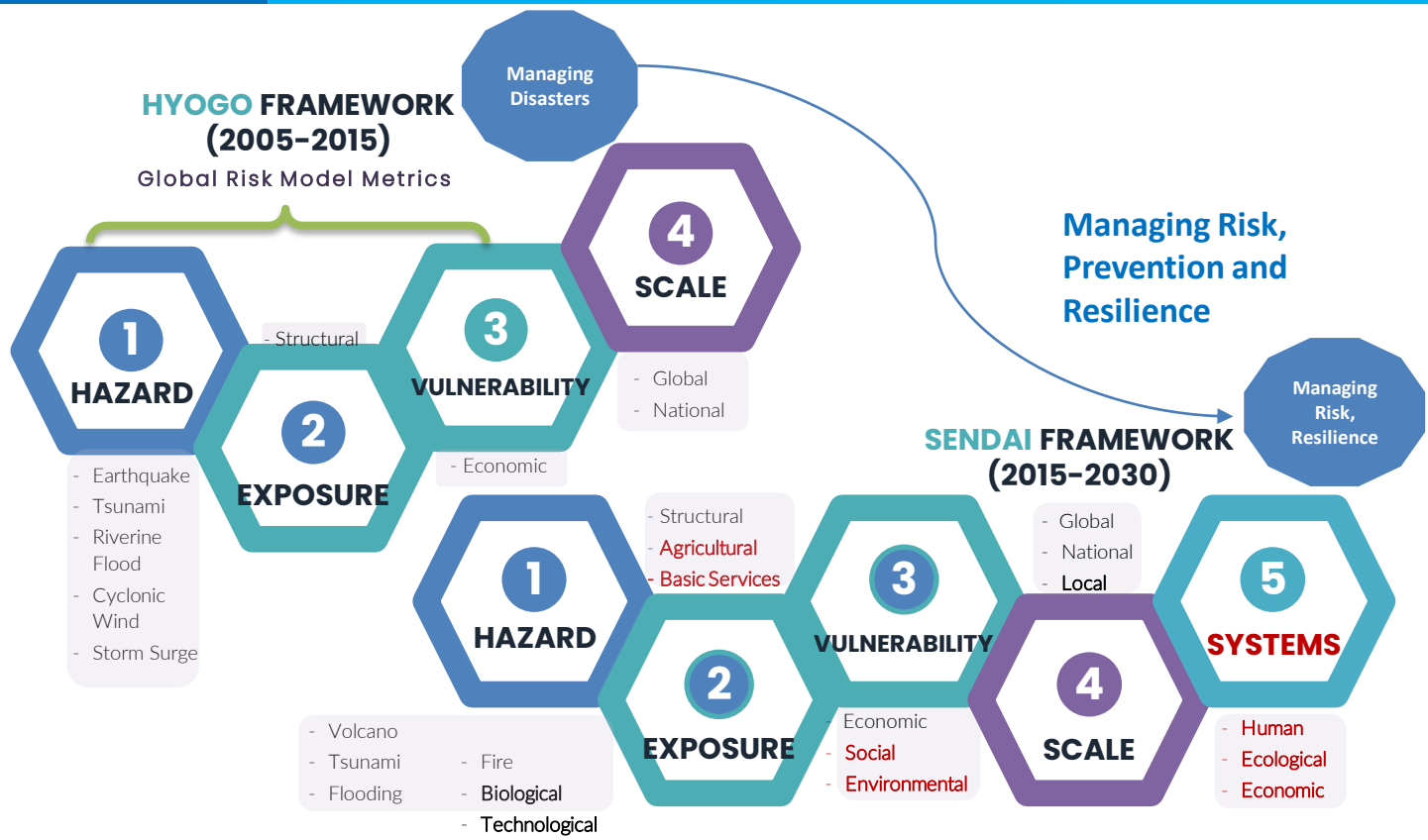
The value of **community action empowered by new technologies** has been demonstrated in Dharavi.

Official action is complemented by **local surveillance by communities** that offer governments ‘ears to ground’

This model tackled COVID-19 by means of **micro-mapping, robust surveillance, public-private partnerships, community engagement and proactive leadership.**



# Solution 2 : Utilizing Sendai Framework for Disaster Risk Reduction 2015-2030 - a system approach to building resilience



## Solution 3 : Transforming the governance of systemic risk

Extreme climate events

Associated health hazards

Geo-physical hazards

Systemic risk in interdependent infrastructure and global supply chains, Existential risks

Cascading risks from compounding hazards

Risk is always global but resilience is local, focus on community and territorial governance

Risk informed - Financial mechanisms, incentives and innovative technologies

Integrated policies, strategies and plan at national, sub-regional, regional and global levels

# Thank you



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