



# SOUTH ASIA DISASTER RISK MANAGEMENT & CLIMATE CHANGE

May 2018

# OUTLINE

REGIONAL  
OVERVIEW

VULNERABILITY  
AND  
CHALLENGES

STRATEGIC  
APPROACH  
TO BUILDING RESILIENT  
SOUTH ASIA

STORIES  
OF  
IMPACT

South Asia is home to 1.766 billion people or 24% of the global population.



REGIONAL  
OVERVIEW



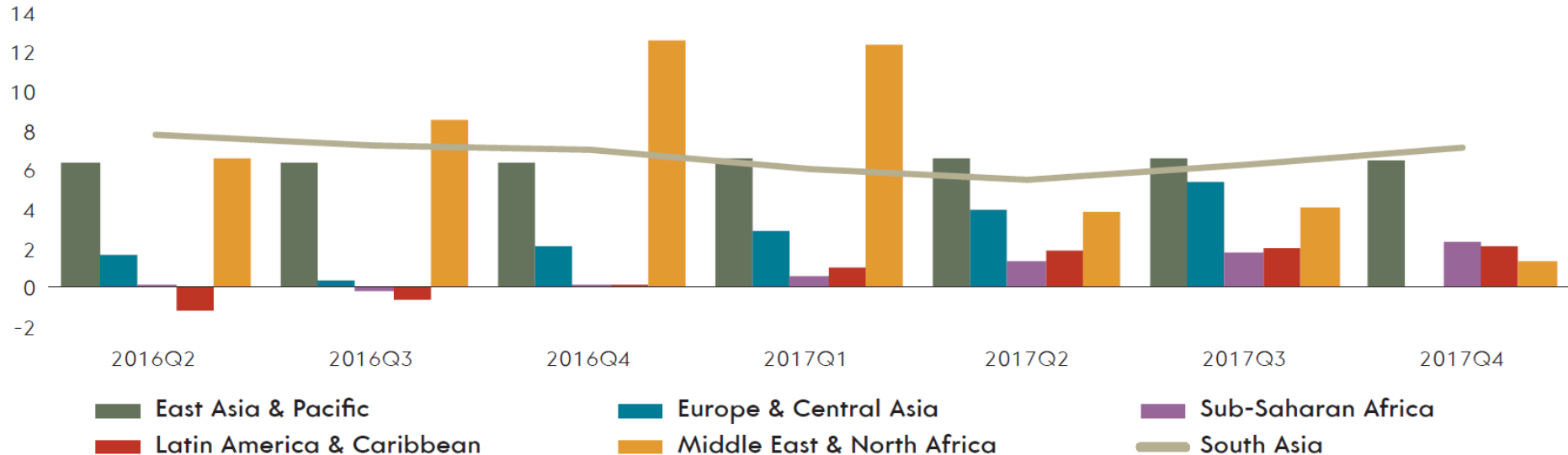


# South Asia is the fastest growing region in the world

## Regional real GDP growth

Percent, y-o-y

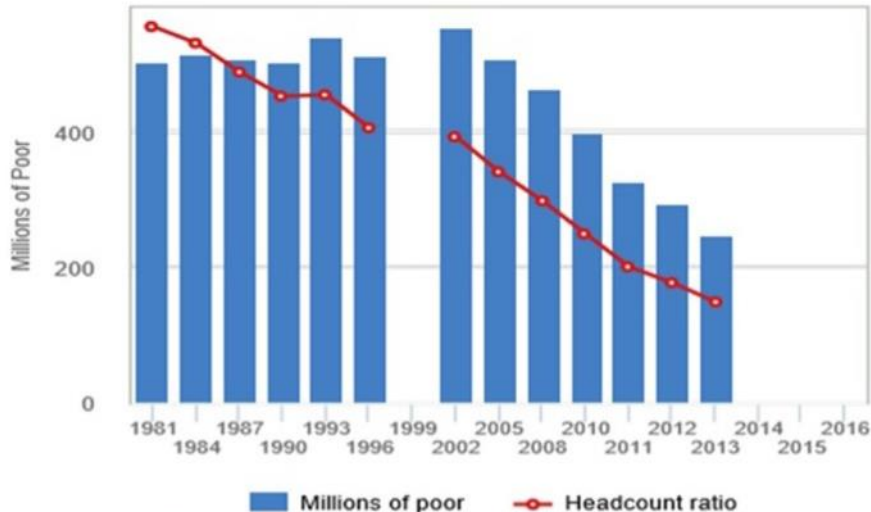
With economic growth projected to rise from 6.7% in 2016 to 7.1% in 2018.



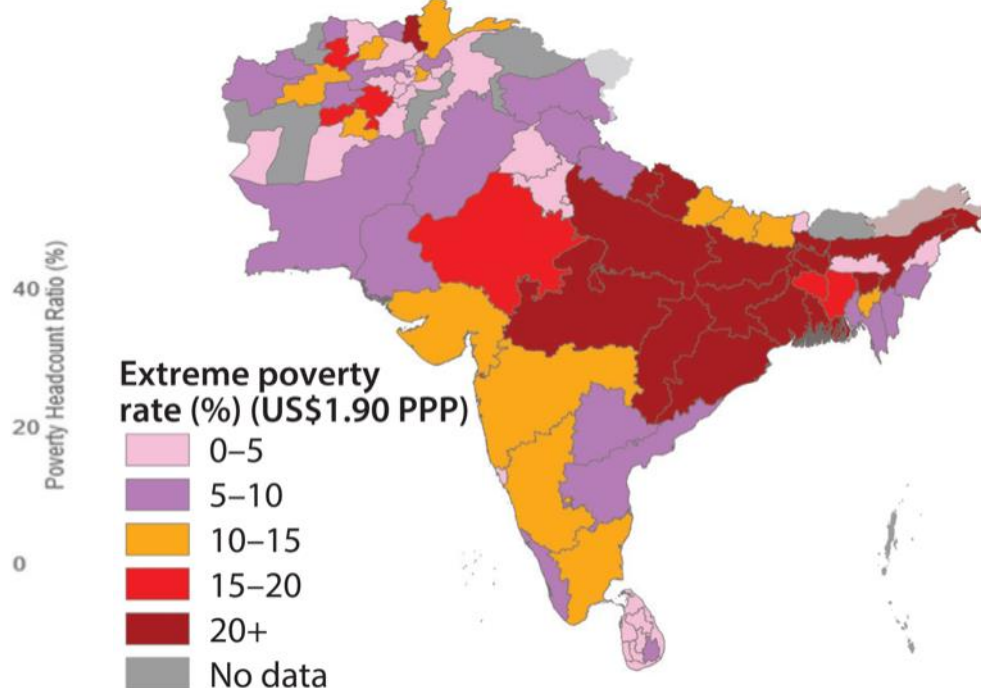
# Strong growth has translated into declining poverty

Yet, South Asia is still home to 256 million poor or a third of the world's poor.

South Asia Regional Poverty Trend  
(Number of people living on less than \$1.90/day)



Source: Poverty and Equity Databank and PovcalNet



Source: World Bank. 2018. South Asia's Hotspots.



## VULNERABILITY AND CHALLENGES

### **Disasters take a huge toll on the development agenda of South Asian countries.**

- Three out of five most vulnerable countries are in South Asia.
- Between 2000 and 2017, South Asia incurred estimated damages of \$149.27 billion, 270,000 deaths, and 21 million homeless due to disasters.
- Climate impact could reduce region's GDP by an average of 1.8% by 2050.

# Cities and urban infrastructure are increasingly exposed to hazards

**Some 80% of major South Asian cities are exposed to floods.**

- For nine South Asian cities around the Bay of Bengal, what is now a 100-year storm event may occur as often as every two to five years by 2100.
- Poverty, high exposure to hazards, rapid urbanization, large informal settlements, and lack of risk-informed investments exacerbate the disaster and climate risks to which urban dwellers are exposed.

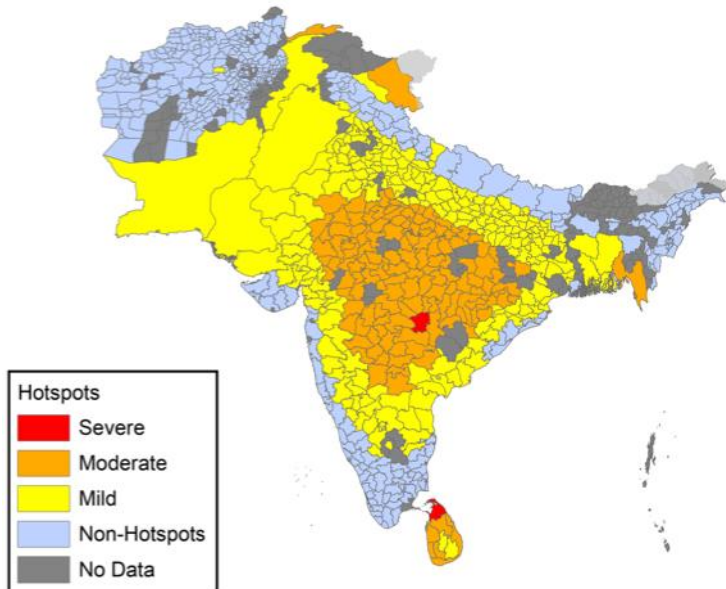
**\$2.5 trillion infrastructure investment is needed in next decade.  
Building resilient infrastructure entails incremental costs.**



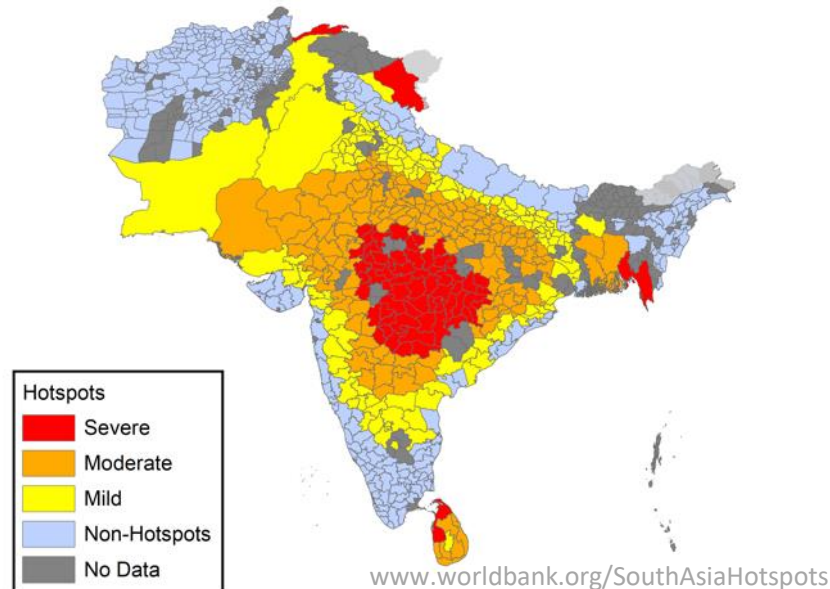
More than 800 million people in South Asia today live in areas that would become climate hotspots by 2050 under the carbon-intensive scenario.

Climate change will depress living standards in South Asia.  
Costs of inaction highest in severe hotspots.

Climate-sensitive (RCP 4.5)



Carbon-intensive (RCP 8.5)







# STRATEGIC APPROACH

TO BUILDING RESILIENT  
SOUTH ASIA

- Climate Business Plan
- Climate Smart Agriculture
- Integrated Water Resources Management
- Nature-based Solutions for Resilience
- Adaptive Social Protection
- Better Management of Disaster Risks

### 3 STRATEGIC APPROACH

# South Asia Climate Business Plan

- World Bank's corporate commitment is to increase the climate-related share of the portfolio to 28% by 2020.
- About 28% of the World Bank's portfolio in South Asia offers climate co-benefits (FY11-17).
- World Bank supports countries meet their NDC commitments through direct investments, advisory services, and new and innovative solutions.



### 3 STRATEGIC APPROACH

# Climate Smart Agriculture

- Climate change is likely to reduce agricultural production by 10-50% by 2050 if adaptation measures are not undertaken.
- Climate smart agriculture as an integrated adaptive approach aims to sustainably increase agricultural productivity and incomes while adapting and building resilience and enhancing food security.





### 3 STRATEGIC APPROACH

# Integrated Water Resources Management

- IWRM is a key adaptation tool that can help manage hydrological variability, including extremes, through drought and flood forecasting, planning, preparedness, and management.
- Building effective adaptation capacity through IWRM will require greater policy coherence, coordination, and effective implementation across many sectors of the economy.





### 3 STRATEGIC APPROACH

# Nature-based Solutions for Resilience

- Forests and land restoration are key to achieving climate mitigation and enhancing resilience.
- Ecosystems act as a buffer against the forces of floods, storm surges, and cyclones, and can be effective in reducing disaster risk while benefitting the environment and creating local jobs.



### 3 STRATEGIC APPROACH

# Adaptive Social Protection

- When the poor people are hit by a natural hazard, they lose a larger share of their wealth.
- ASP is a flexible social protection systems to help individuals and households cope with natural disaster, civil war, displacement, and other shocks so that investments in human capital are not undermined.



### 3 STRATEGIC APPROACH

# Better Management of Disaster Risks

- Modernization of Hydromet Services and Early Warning System
- Investing in Risk Mitigation
- Enhancing Emergency Preparedness
- Promoting Disaster Risk Finance
- Effectively Responding to and Recovering from Disasters





# STORIES OF IMPACT

- **Sri Lanka** – Climate Resilience Improvement Project
- **India** – National Cyclone Risk Mitigation Projects
- **Bangladesh** – Coastal Embankment Improvement Project
- **South Asia** Regional Hydromet Program
- **Nepal** – Earthquake Reconstruction



# Sri Lanka – Climate Resilience Improvement Project

## Challenges

- Extreme variability of rainfall and droughts;
- Landslides are increasingly becoming a major threat in hilly areas.

## Strategy

- Long-term program to increase capacity and fiscal and physical resilience to hydro-meteorological disasters;
- Establish a comprehensive and forward looking climate change adaptation program;
- Build capacity to reduce landslide risk.

## Expected Results

- Reduced vulnerability of exposed people and assets to climate risk;
- Improved government's capacity to respond to disasters.



# India – National Cyclone Risk Mitigation Projects

## Challenges

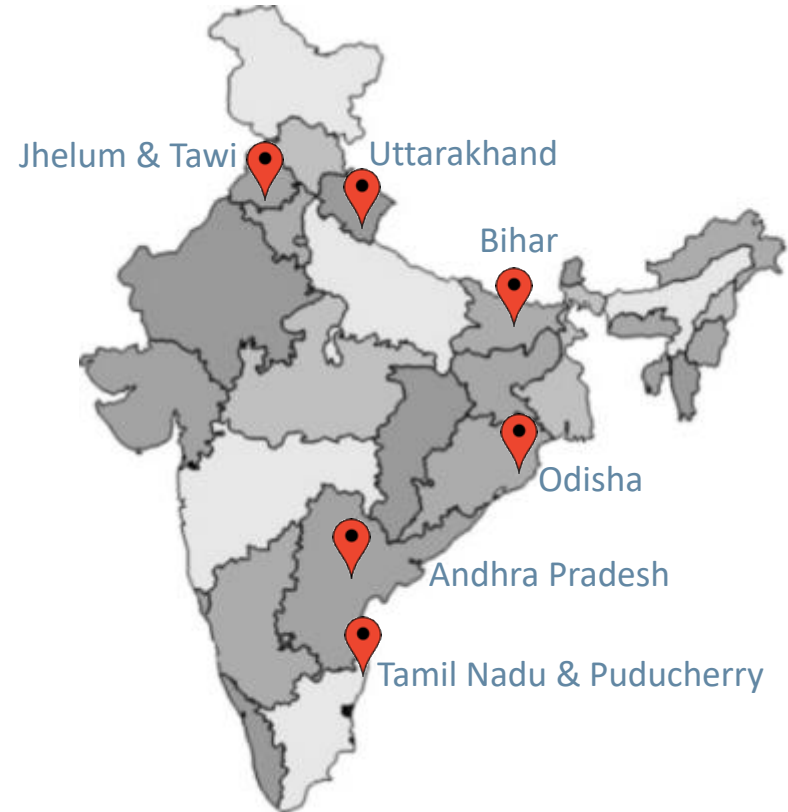
- Almost 76% of the 7,500km coastline is prone to cyclones and 68% of the area is susceptible to drought.

## Strategy

- Coastal protection against cyclones;
- Early warning systems;
- Multi-hazard risk management.

## Expected Results

- Reduced vulnerability to hydromet hazards of coastal communities in project States;
- Increased capacity of the State entities to effectively plan for and respond to disasters.



# India – National Cyclone Risk Mitigation Projects

Engaging 600 communities to enhance disaster preparedness and response including village DRM plans and early warning system.



# Bangladesh – Coastal Embankment Improvement Project

## Challenges

- Rated 6th most vulnerable nation to climate change;
- By 2050, the coastal protection is projected to grow to 61 million people;
- By 2080, sea level is projected to rise by 65 cm, inundating 18% of Bangladesh' total land, directly impacting 11% of the population.

## Strategy

- Rehabilitation and improvement of embankments;
- Upgrade of design standards to address storm surges and climate risks;
- Growing network of cyclone shelters and cell-broadcast early warning system;
- Reducing saline water intrusion.

## Expected results

- Enhanced coastal protection against tidal flooding and storm surges.





# Bangladesh – Coastal Embankment Improvement Project

Protective coastal infrastructure, evacuation shelters, and early warning system are building resilience in coastal communities.





# South Asia Regional Hydromet & Climate Services Program

## Challenges

- Weather patterns and climate risks are transboundary in South Asia;
- Limited access to weather information products affects the productivity and performance of key economic sectors.

## Strategy

- Improvements in monitoring, weather, and flood forecasting;
- Community-based early warning systems;
- Delivery of hydromet services to users and communities.

## Expected Results

- Enhanced capacity of governments in hydromet monitoring, forecasting, and early warning systems at the national and regional levels.

# Nepal – Earthquake Reconstruction

## Challenges

- Two major earthquakes in April and May 2015 took lives of approximately 8,700 people and affected 8 million more;
- 490,000 houses were destroyed and 265,000 temporarily uninhabitable.

## Strategy

- World Bank, UNDP, EU, ADB, and JICA supported a Post-Disaster Needs Assessment and developed a Post-disaster Recovery Framework;
- Implementing a homeowner-driven Rural Housing Reconstruction Program.

## Expected Results

- Over 572,000 beneficiaries have been enrolled in the housing reconstruction program, of which 99% received the first tranche of the housing subsidy;
- So far, the program has trained 4,000 masons and provided orientation on seismically-safe construction to 57,000 house owners.







THANK  
YOU



WORLD BANK GROUP