Climate Change Adaptation and Risk Reduction:

The role of development aid?

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SENDAI FRAMEWORK

FOR DISASTER RISK REDUCTION 2015-2030

Outline

- Why focus on adaptation and disaster risk reduction?
- What risks are we facing?
- What are some response options?
- What is the state of global frameworks?
- Synergies with the European Green Deal?

Key Messages:

1. Climate change jeopardizes development gains and investments
2. Adaptation and risk reduction actions are applicable to numerous sectors and can yield a triple dividend
3. We need a “revolution” in finance and planning

Relevant Sources

Intergovernmental Panel for Climate Change (IPCC):

- *Special Report on Climate Change and Land* – https://www.ipcc.ch/srccl/chapter/summary-for-policymakers/
- *Special Report on Ocean and Cryosphere* - https://www.ipcc.ch/srocc/chapter/summary-for-policymakers/

Global Commission on Adaptation

- *Adapt Now: A Global Call for Leadership on Climate Resilience* - https://gca.org/global-commission-on-adaptation/report

McKinsey Global Institute

- *Climate Risk and Response Report* - https://www.mckinsey.com/business-functions/sustainability/our-insights/climate-risk-and-response-physical-hazards-and-socioeconomic-impacts

And coming in October 2021….**IPCC Sixth Assessment Report: Impacts, Adaptation and Vulnerability**

The Imperative for Adaptation and DRR

"Climate change is upon us and its impacts are getting more severe"

Global Commission on Adaptation

Without adaptation in 2050:

- Climate change may depress growth in agricultural yields by 30%
- 5 billion people may lack sufficient water for at least 1 month/ year
- Storm surges in urban coastal areas cost more than $1 trillion/ year

Building Resilience

To build resilience to climate shocks we need action to:

REDUCE

Disaster Risk Reduction

PREPARE

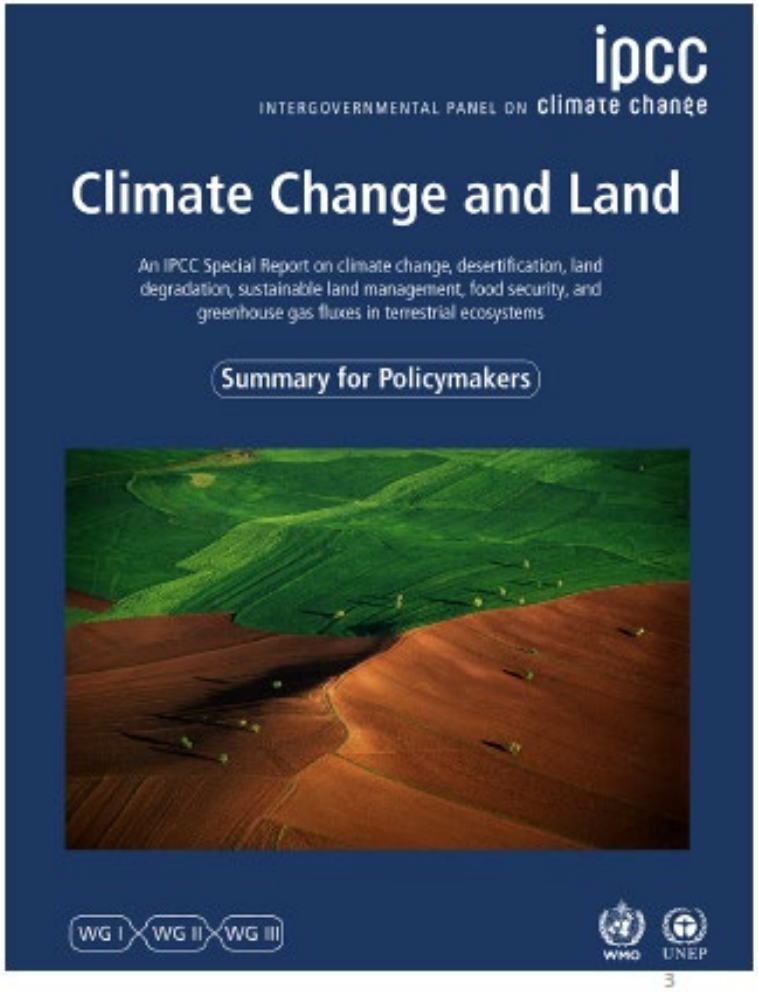
Adaptation

RECOVER

Humanitarian Action and Transformation of Development Pathways

"He appears to have lost all of his resilience."

Risks to Humans and Ecosystems



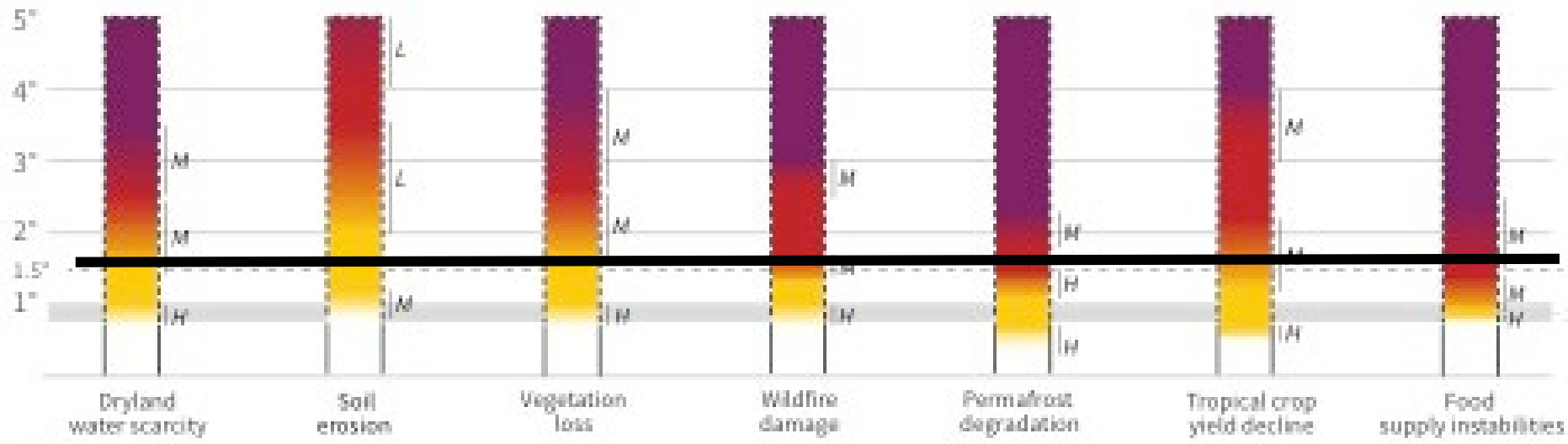
- Land surface air temperature has risen near twice as much as global average
- 23% of total GHG from agriculture, forestry and land use

Land is under growing human pressure

Land must be part of the solution

But land can't do it all

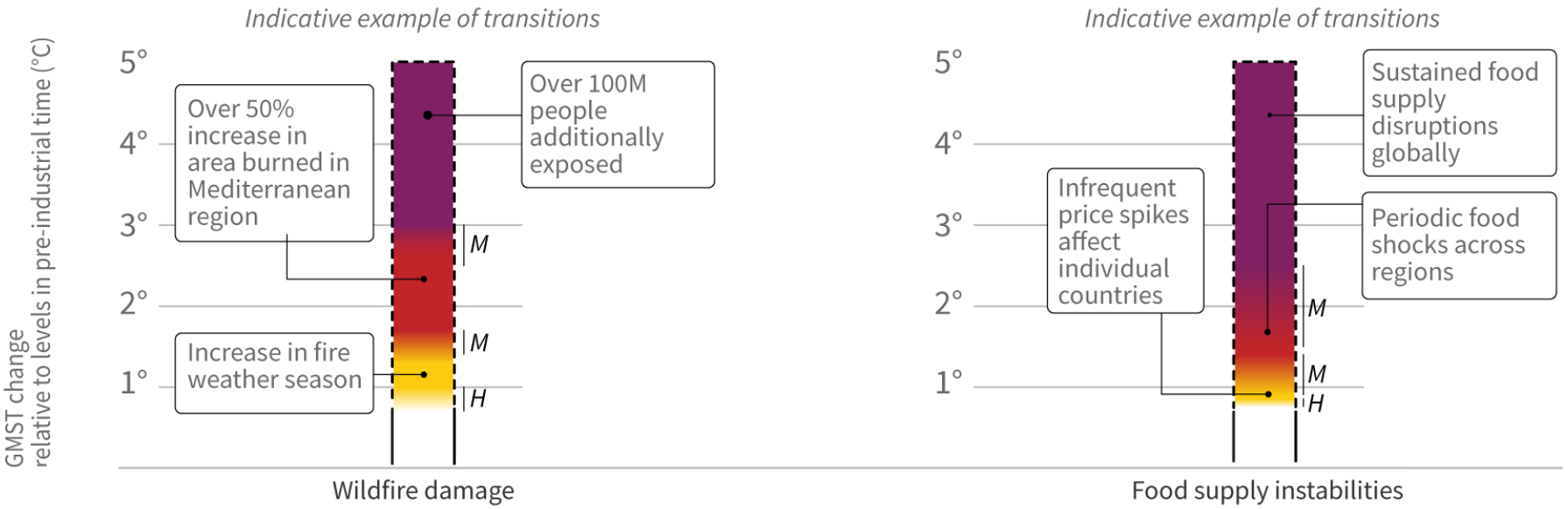
SRCCL Summary for Policy Makers



- Around 1.5°C GMST high risks possible from **dryland water scarcity, fire damage, permafrost degradation, tropical crop yield decline and food system instability**

ipcc
INTERGOVERNMENTAL PANEL ON climate change
WMO UNEP

SPM Figure 2



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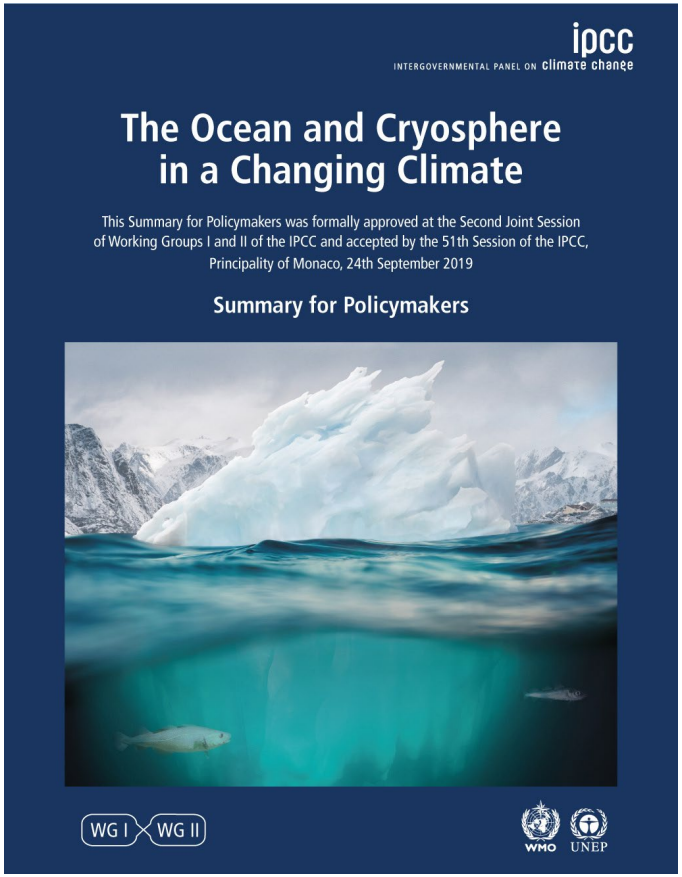
Special Report on Oceans and Cryosphere in a Changing Climate



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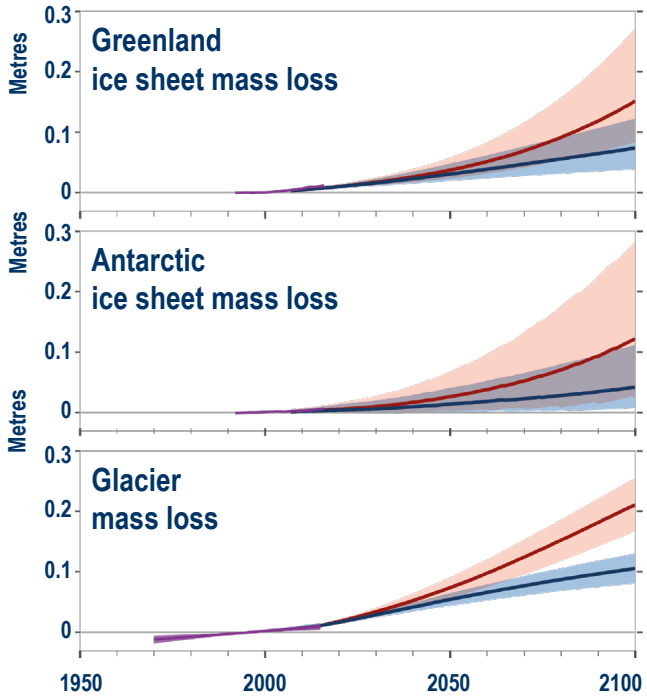
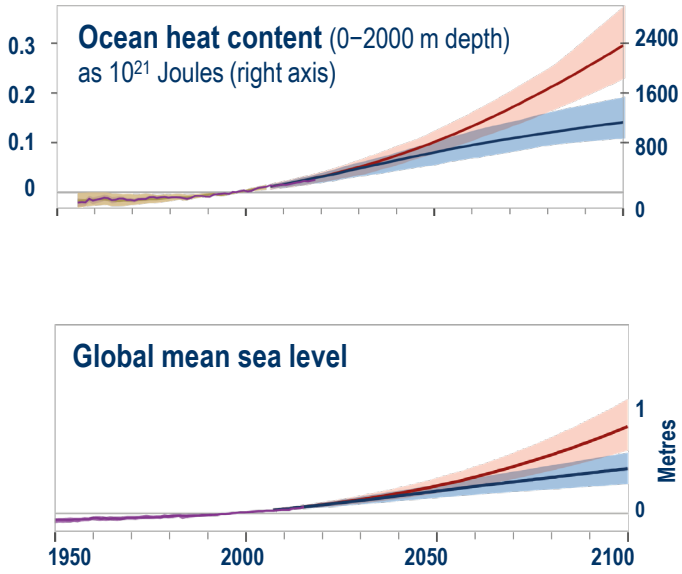
Sea level is projected to continue to rise at an increasing rate





Primary drivers of global mean sea level

Values as sea level equivalent
Changes relative to 1986–2005

Projected (RCP8.5)

Projected (RCP2.6)

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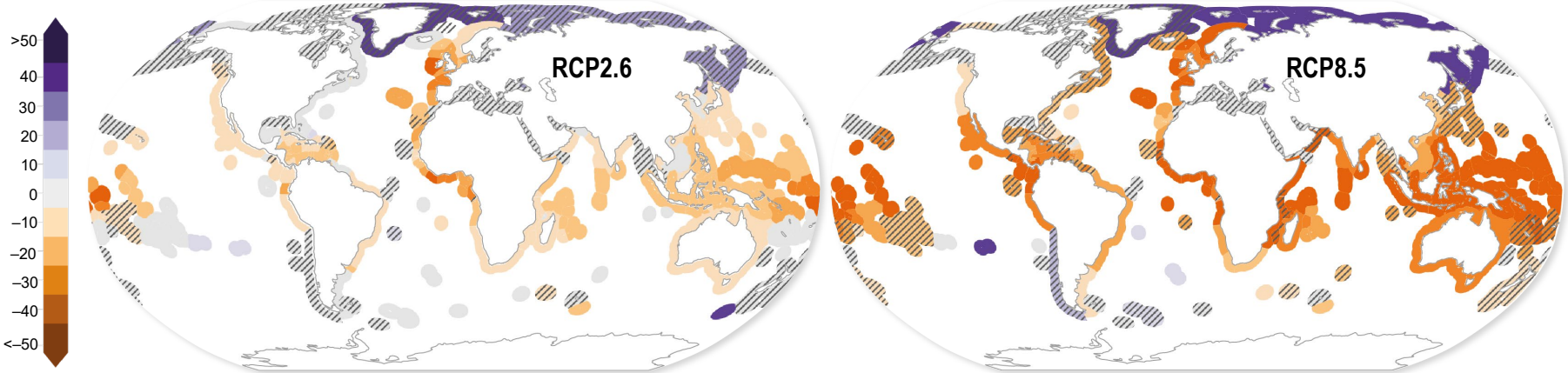
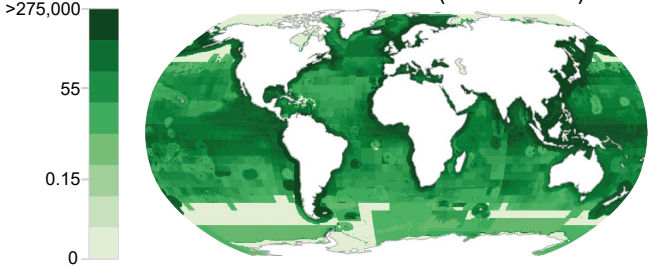
Future changes in maximum fisheries catch potential (in shelf seas)

Percent change Average by 2081–2100, relative to 1986–2005



Baseline Values in tonnes (1986–2005)



No data

Model disagreement

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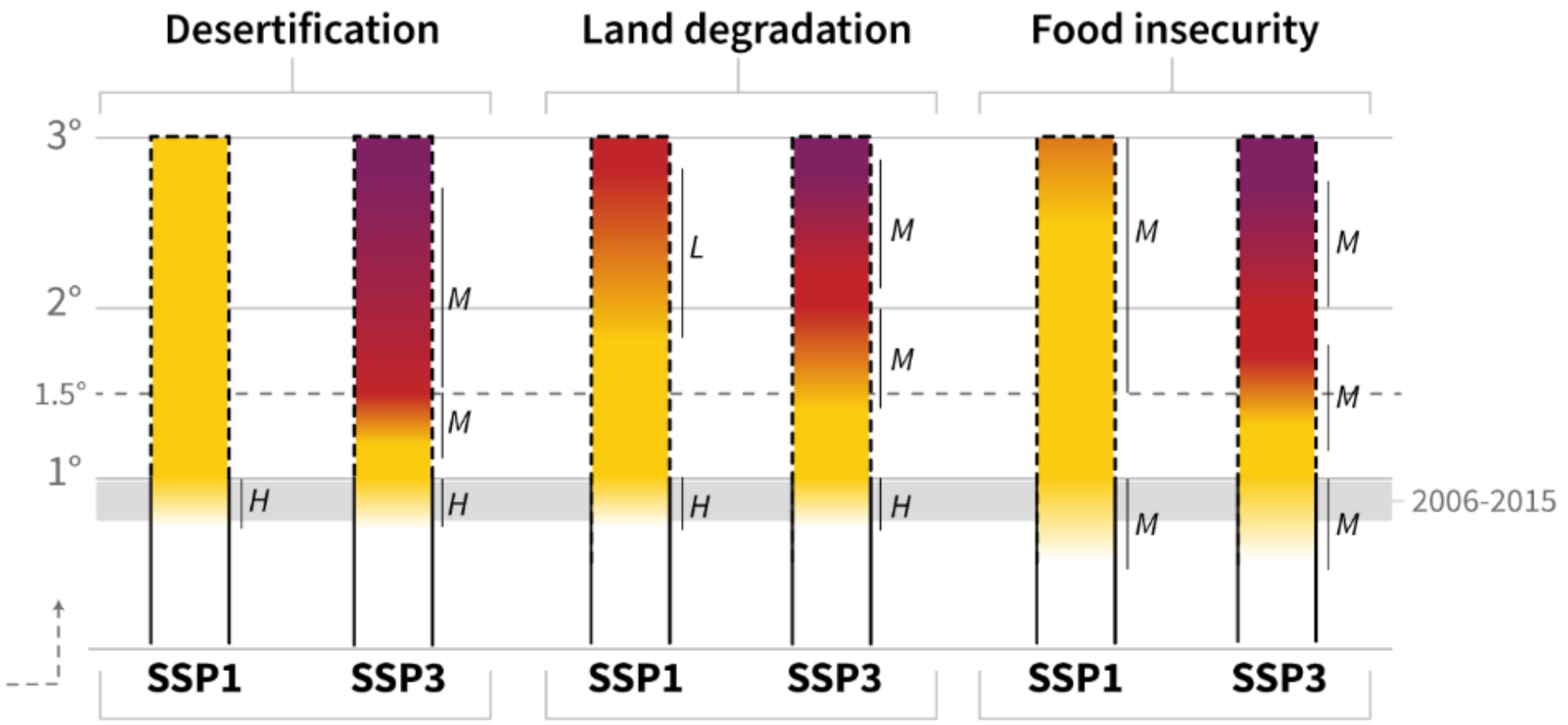
McKinsey Report: Climate Risk and Response

- Physical risks to livability and workability, food systems, physical assets, infrastructure, natural capital
- Risks are increasing, spatially specific, non-stationary, nonlinear systemic and regressive (biggest impacts on emerging economies)
- Classify countries into six types based on patterns of expected climate change and examine risks (e.g. working hours affected by extreme heat and humidity)

Development Pathways influence risk



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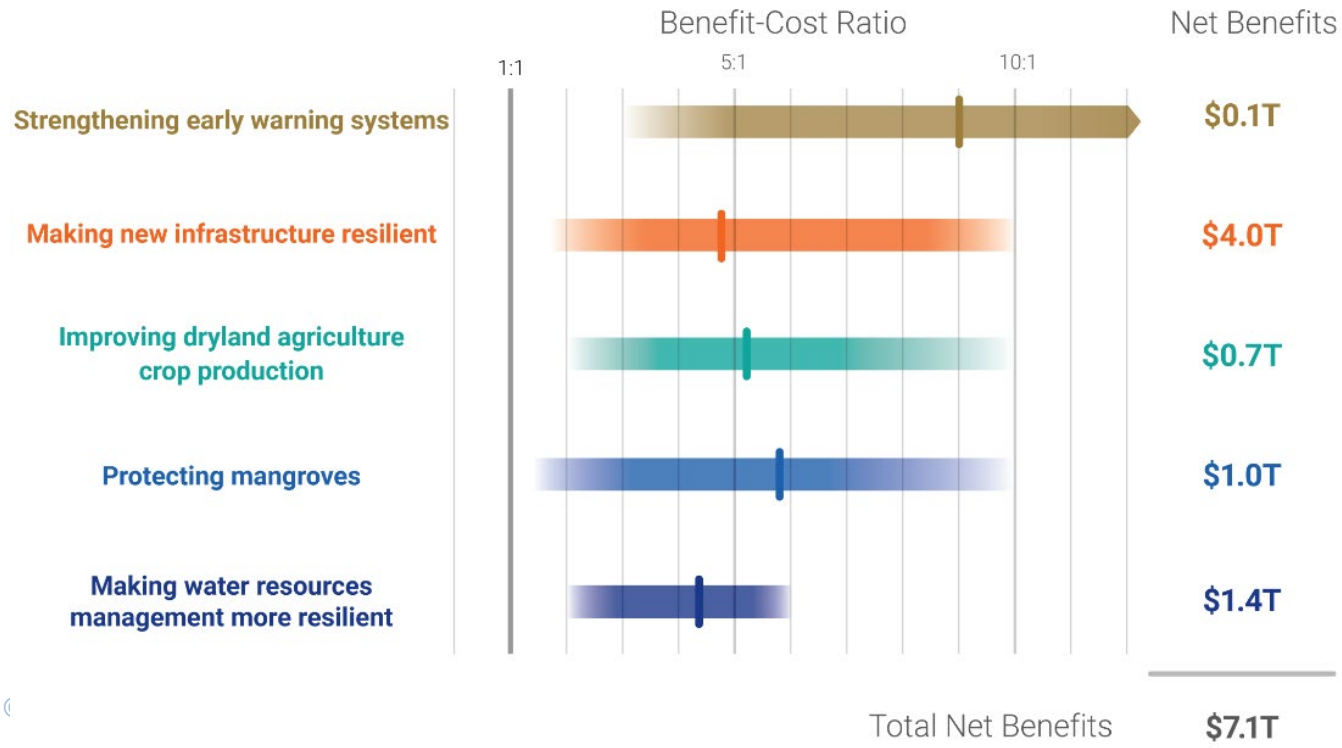
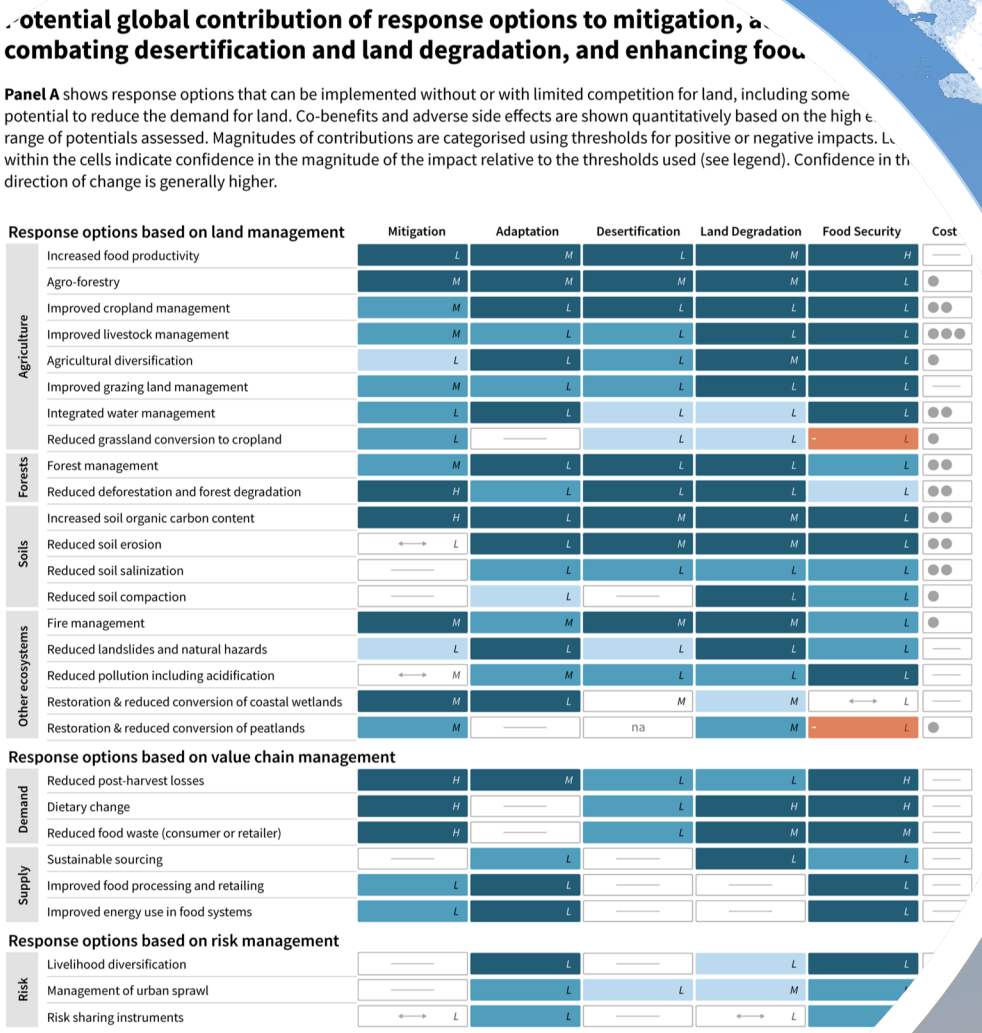
Response Options

- Triple dividend – avoided losses, economic benefits, social and environmental benefits
- Investing $1.8 trillion globally in five areas from 2020 to 2030 could generate $7.1 trillion in benefits *(GCA) 2019)*



Options for Land

SRCCL SPM Figure 3A



otential global contribution of response options to mitigation, a combating desertification and land degradation, and enhancing food

Panel A shows response options that can be implemented without or with limited competition for land, including some potential to reduce the demand for land. Co-benefits and adverse side effects are shown quantitatively based on the high e range of potentials assessed. Magnitudes of contributions are categorised using thresholds for positive or negative impacts. L within the cells indicate confidence in the magnitude of the impact relative to the thresholds used (see legend). Confidence in th direction of change is generally higher.

	Response options based on land management	Mitigation	Adaptation	Desertification	Land Degradation	Food Security	Cost
Agriculture	Increased food productivity	L	M	L	M	H	
	Agro-forestry	M	M	M	M	L	●
	Improved cropland management	M	L	L	L	L	●●
	Improved livestock management	M	L	L	L	L	●●●
	Agricultural diversification	L	L	L	M	L	●
	Improved grazing land management	M	L	L	L	L	
	Integrated water management	L	L	L	L	L	●●
	Reduced grassland conversion to cropland	L		L	L	– L	●
Forests	Forest management	M	L	L	L	L	●●
	Reduced deforestation and forest degradation	H	L	L	L	L	●●
Soils	Increased soil organic carbon content	H	L	M	M	L	●●
	Reduced soil erosion	↔ L	L	M	M	L	●●
	Reduced soil salinization		L	L	L	L	●●
	Reduced soil compaction		L		L	L	●
Other ecosystems	Fire management	M	M	M	M	L	●
	Reduced landslides and natural hazards	L	L	L	L	L	
	Reduced pollution including acidification	↔ M	M	L	L	L	
	Restoration & reduced conversion of coastal wetlands	M	L	M	M	↔ L	
	Restoration & reduced conversion of peatlands	M		na	M	– L	●
	Response options based on value chain management						
Demand	Reduced post-harvest losses	H	M	L	L	H	
	Dietary change	H		L	H	H	
	Reduced food waste (consumer or retailer)	H		L	M	M	
Supply	Sustainable sourcing		L		L	L	
	Improved food processing and retailing	L	L			L	
	Improved energy use in food systems	L	L			L	
	Response options based on risk management						
Risk	Livelihood diversification		L		L	L	
	Management of urban sprawl		L	L	M		
	Risk sharing instruments	↔ L	L		↔ L		

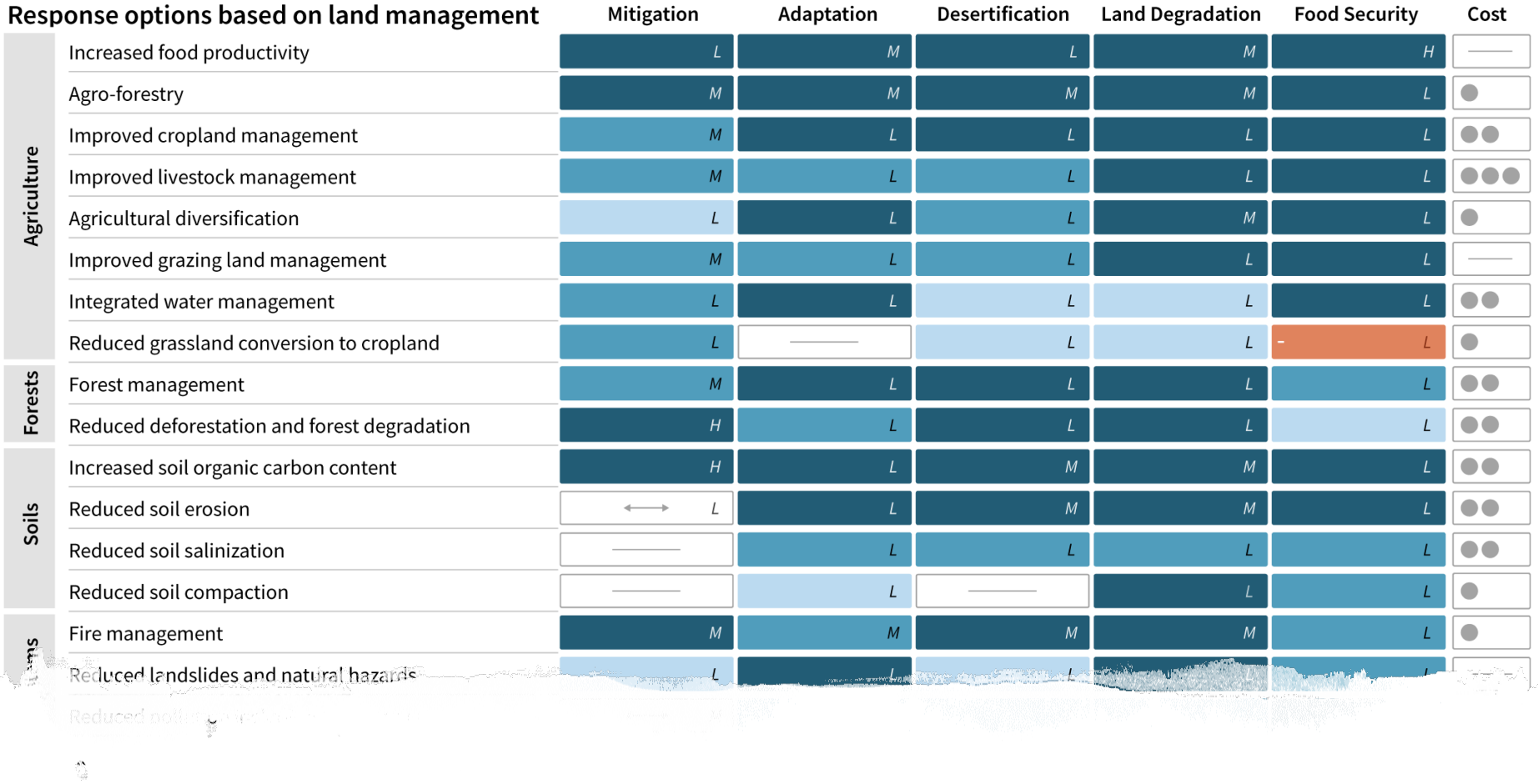
Options shown are those for which data are available to assess global potential for three or more land challenges.
The magnitudes are assessed independently for each option and are not additive.

ey for criteria used to define magnitude of impact of each integrated response option

Mitigation	Adaptation	Desertification	Land Degradation	Food Security
Gt CO_2-eq yr^{-1}	*Million people*	*Million km²*	*Million km²*	*Million pe*
More than 3	Positive for	Positive for	Positive for	

Looked at **28** different response options that can be implemented with **limited or no competition** for land.

Almost all response options have a **positive effect** on **mitigation, adaptation, desertification, land degradation** and **food security**.



Most land-based response options have a positive impact.

Response Options - Agriculture

Land Management:

- Increase productivity
- Promote Agro-forestry
- Improve cropland and grazing land management
- Increase soil organic carbon (e.g. biochar)
- Preserving peatlands and wetlands

Value Chain Management:

- Reduced post-harvest loss and food waste
- Strengthen Supply Chains

Support Agricultural Research and Development

Increase access to information (e.g. seasonal forecasts and early warning)

Response Options – Environment and Water

Natural Environment:

- Land use regulation
- Habitat restoration – restoration of forests, mangroves, tidal marshes, seagrass meadows
- Species relocation
- Rebuilding of overexploited fish stalks

Water:

- Investments in healthy watersheds
- Improvements in efficiency of water use

Cities

- Invest in early warning systems and risk awareness
- Strengthen physical resilience measures
- Support nature based solutions for water and heat risks
- Upgrade living conditions in informal settlements

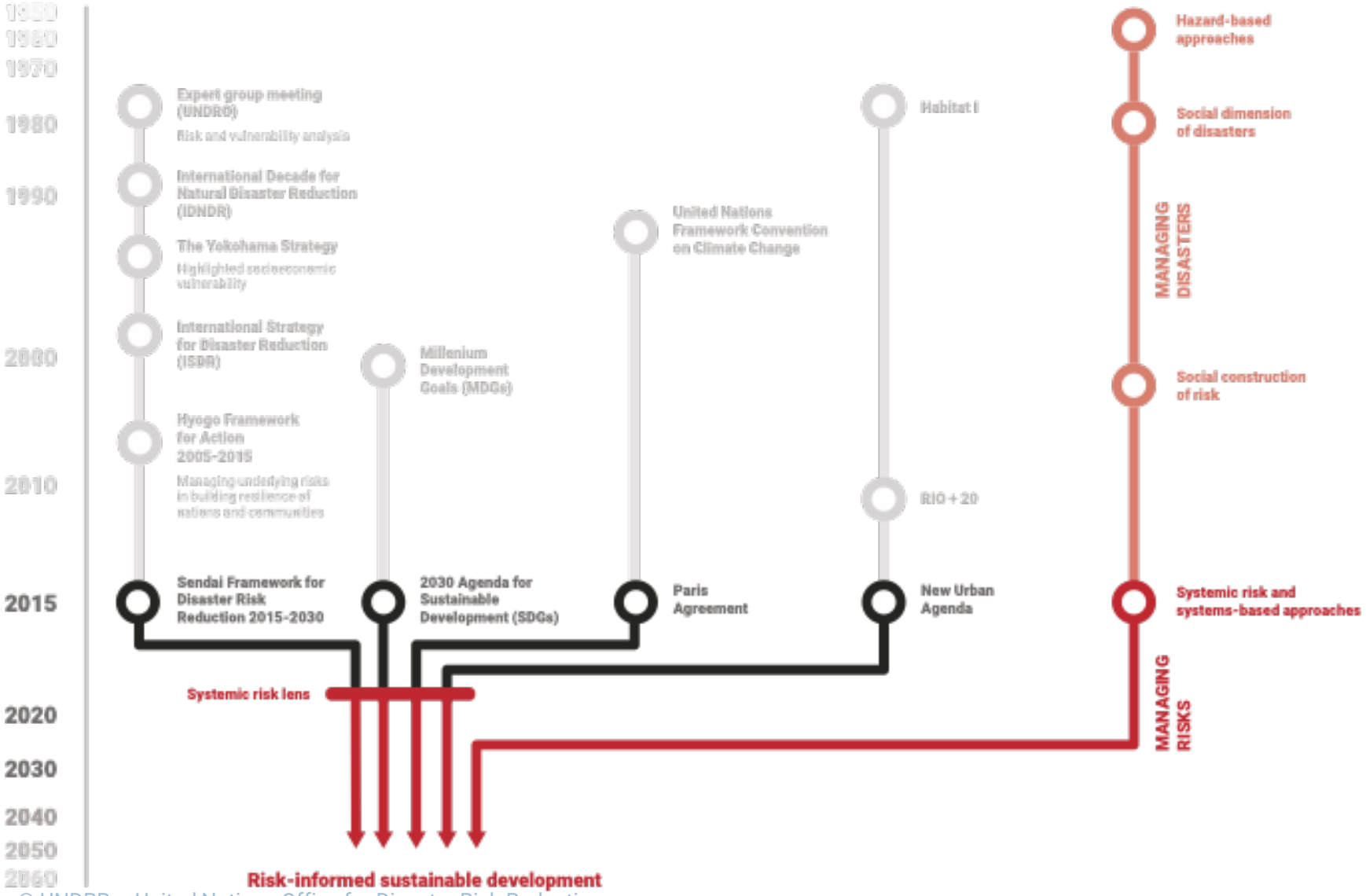
Infrastructure

- Climate proof infrastructure
- Invest in infrastructure that protects people and assets

Risk Management and Decision Making

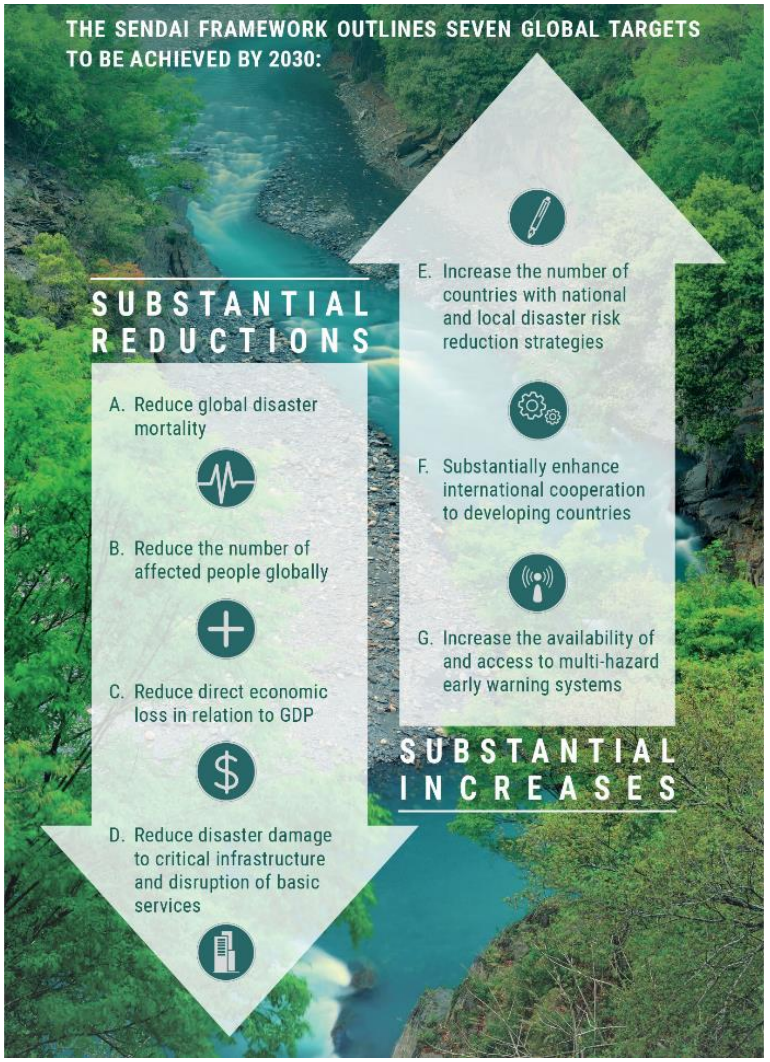
- Consider climate and disaster risk in all decisions (e.g. capital allocation, project design)
- Strengthen dialogue between climate and risk management communities, include vulnerable groups in decisions
- Develop comprehensive risk management plans
- Strengthen social safety nets, risk pooling, risk transfer
- Improve data and monitoring at national and local level

State of Global Frameworks



The Sendai Framework

- The Sendai Framework is a detailed blueprint for how the world can achieve a substantial reduction in disaster risk and loss by 2030.
- Priorities for action include:
  - Improved **understanding of disaster risk**
  - Strengthening disaster **risk governance** to manage disaster risk
  - Investing in **disaster risk for resilience**
  - Improving **disaster preparedness** for more effective emergency response and building back better



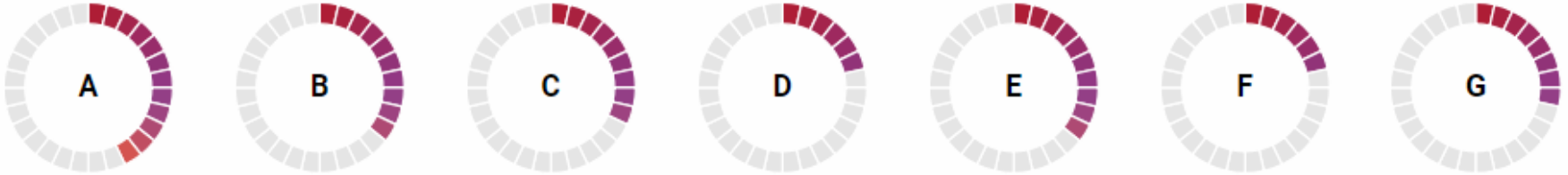
Reporting Progress on Targets A through G

PROGRESS OF GLOBAL TARGETS

COUNTRY REPORTING OVERVIEW

195	93	84	6	12
countries total	Not started	in progress	ready for validation	validated

TARGET REPORTING OVERVIEW



A	B	C	D	E	F	G
Mortality	People affected	Economic loss	Critical infrastructure & services	Disaster risk reduction strategies	International cooperation	Early warning and risk information
108 Not started	117 Not started	126 Not started	154 Not started	120 Not started	150 Not started	136 Not started
19 in progress	25 in progress	31 in progress	7 in progress	27 in progress	14 in progress	24 in progress
28 ready for validation	26 ready for validation	18 ready for validation	13 ready for validation	20 ready for validation	16 ready for validation	13 ready for validation
40 validated	27 validated	20 validated	21 validated	28 validated	15 validated	22 validated

Data reported and extracted as of 1 July 2019

European Green Deal

- Can use diplomatic and financial tools to help ensure action globally
- Many areas of Green Deal are relevant to adaptation, actions can be incorporated into development programming
- External dimension of other instruments also relevant to adaptation (e.g. EU Forestry Strategy)

“The good news is that adaptation, done right, will lead to better growth and development...”

- Global Commission on Adaptation


Thank you for your attention
Questions?
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