



中国环境与发展国际合作委员会
China Council for International Cooperation
on Environment and Development

CCICED Special Policy Study Adaptation Resilience Assessment Framework

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TIAS 20th anniversary symposium:

Water issues as the starting point of Integrated Assessment

April 15, 2024

- CCICED Special Policy Study on Adaptation
- The assessment framework
- Capacities for resilience
- Levers accelerating adaptation
- Case studies
- Lessons learned and policy recommendations (to be formulated)

- CCICED
- Special Policy Study on Adaptation (SPS-A)

Objectives SPS-A:

- establish a framework for assessing the climate resilience of urban and rural areas
- put forward key priorities and important measures for strengthening climate resilience in densely populated areas of river basins and in urban and rural construction areas
- and formulate policy recommendations on planning and governance for strengthening climate resilience

- Resilience

Physical, social and ecological resilience to better deal with extreme weather, climate change and other developments and strengthen social structure, economy, health, safety and wellbeing

- Vulnerability reduction (and seizing opportunities)
- Theoretical framework
 - Capacities
 - Drivers and levers accelerating adaptation

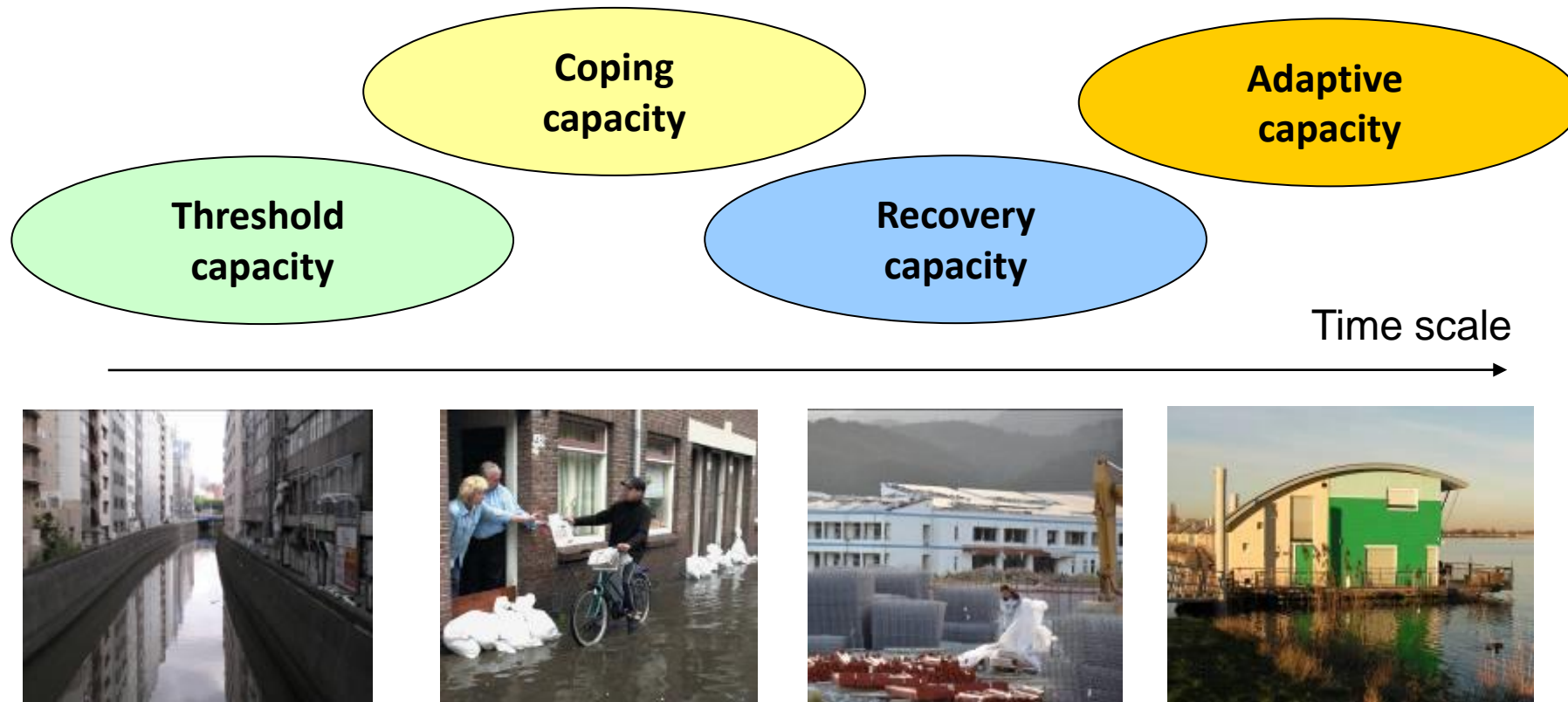
Resilience: The capacity of interconnected social, economic and ecological systems to cope with a hazardous event, trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure. Resilience is a positive attribute when it maintains capacity for adaptation, learning and/or transformation (Arctic Council, 2016; IPCC, AR6)

Key capacities to creating resilience



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Four **capacities** to reduce vulnerability:



De Graaf RE, NC van de Giesen and FHM van de Ven (2007) Alternative water management options to reduce vulnerability for climate change in the Netherlands. Natural Hazards, DOI 10.1007/s11069-007-9184-4

Key capacities to creating resilience



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Capacities

- Threshold Capacity, to raise a threshold for problems to emerge
- Coping Capacity, to better cope with problems
- Recovery Capacity, for recovery after disaster
- Adaptive Capacity, for adaptability to future conditions, anticipation-based

• Transformative Capacity,
steering regional development
onto a new course

De Graaf-van Dinther R, Ovink H (2021) The five pillars of climate resilience. In: De Graaf-vanDinther R (eds)

Climate resilient urban areas; governance design and development in coastal delta cities.

Palgrave Macmillan, ISBN 978-3-030-57536-6, p 1-19, https://doi.org/10.1007/978-3-030-57537-3_1

De Graaf RE, NC van de Giesen and FHM van de Ven (2007) Alternative water management options to reduce vulnerability for climate change in the Netherlands.

Natural Hazards, DOI 10.1007/s11069-007-9184-4

Key capacities



Threshold capacity

The capacity to avoid damage by extreme conditions by constructing a threshold against environmental variation.

Coping capacity

The capability of a neighborhood, city, or country to deal with extreme weather conditions and reduce damage during such conditions.

Recovery capacity

Society's capability to bounce back to a state equal to, or even better than, before the extreme event.

Adaptive capacity

Society's capability to anticipate uncertain future developments (long term) and timely adapt.

Transformative capacity

Society's capability to create an enabling environment, strengthen stakeholder capacities, and identify and implement catalysing interventions to transition proactively to a climate-resilient society.

Transformative capacity

Society's capability to create an enabling environment, strengthen stakeholder capacities, and identify and implement catalysing interventions to transition proactively to a climate-resilient society.

In other words:

The LEVERS ACCELERATING (or hindering) ADAPTATION

Capacities

Threshold Coping Recovery Adaptive



Levers accelerating
adaptation



AND: Geography

→ Deltas & rivers

- Upstream/downstream

→ Cities

- Urban/rural

Different landscapes of assets,
opportunities, actors,
history/future

Levers accelerating adaptation



Interdependent and non-sequential levers include:

- Sense of urgency
- Capacity development
- Innovation
- Data and information
- Financing
- Governance
 - Citizens engagement
 - Policy development
 - Legal & regulatory framework
 - Public-private system collaboration
 - New markets co-creation
 - (Fair) sharing of risks and rewards

Mazzucato M (2019) *Governing missions in the European Union*. Independent Expert Report. European Commission, DG for Research and Innovation, ISBN 978-92-76-08745-8, https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/publications/all-publications/governing-missions-european-union_en



Figure 2: Visualizing the SDG 6 Global Acceleration Framework action pillars

UN-Water, 2020, The Sustainable Development Goal 6 Global Acceleration Framework. UN-Water, Geneva, <https://www.unwater.org/sites/default/files/app/uploads/2020/07/Global-Acceleration-Framework.pdf>

Levers accelerating adaptation



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Sense of urgency

Wide ownership of the urgency of adaptation – its need for action and opportunities . Differentiate in timing of interventions, as some effects of climate change (and other drivers of adaptation) come fast, some much more slow.

Capacity development

The practice of continuously enhancing the strengths and attributes of an individual, community, society or organization – knowledge, skills - to develop, implement and maintain interventions that strengthen the five key capacities to creating resilience.

Innovation

Develop new methods, practices, or products to solve an existing problem, make changes in something established, and create new value. Boost creativity, research by design and scaling up best practices.

Data and information

Build trust through extensive monitoring, data generation, validation, standardization and open access, transparent data and information sharing, to inform all stakeholders, allowing for informed evaluation and decision making.

Financing

Adequate and coordinated funding for identification, implementation, operation and monitoring of policies and interventions towards inclusive water & land management, aimed at achieving long term objectives. Fair and just distribution of the financial burdens and benefits for society and businesses.

Governance

Clear, coherent (unfragmented) roles and responsibilities of federal-to-local institutions; strong, effective public and private institutions. Breakthroughs and transition management.

Citizen's engagement

Citizen's and NGOs' involvement in the definition, co-creation, implementation and assessment of interventions

Policy development

Policies in place to spur – or hindering – implementation and maintenance of interventions

Legal & regulatory framework

Legislation, regulations and standards in place to spur – or hindering – implementation and maintenance of interventions

Public-private system collaboration

Public-private and industrial symbiosis to develop, test, improve and mainstream effective interventions. See Symbiosis Readiness Level (SRL, Sommer 2019)

New markets co-creation

Stimulate spin-offs and spill-overs in cross-sectoral investments, keeping an eye on public value creation. Early stage public funding to create new markets

(Fair) sharing of risks and rewards

Mission-oriented mechanisms to fairly allocate funding loads irt risks and benefits

Mazzucato M (2019) *Governing missions in the European Union*. Independent Expert Report. European Commission, DG for Research and Innovation, ISBN 978-92-76-08745-8, https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/publications/all-publications/governing-missions-european-union_en

Adviesunit Resultaatgericht Beleid, Ministerie van Verkeer en Waterstaat. (1997). Resultaatgericht Beleid. Advies bij Beleidsontwikkeling, Communicatie en Samenwerking. Den Haag: Drukkerij Deltadruk

Sommer KH (2019) Study and portfolio review of the projects on industrial symbiosis in DG Research and Innovation: Findings and recommendations. European Union, 2020, ISBN 978-92-76-11247-1 doi:10.2777/381211

Approach SPS-A: Seriously learning from disasters

- Many instructive stories available, e.g. China, Netherlands, Flanders, Germany, New York, Louisiana, Peru, Bangladesh, Japan, ...
- Studying **many cases** provides a good basis for learning
- Study how the four Capacities have changed; which Levers have accelerated or hindered adaptation?
- Use the four capacities to structure the story of the cases; identify (only the) **crucial** levers and show how these affected policies and practice.

Proposed cases:

China:

- Chongqing-Chengdu area
- Taihu lake, with Shanghai bordering
- Pearl River Delta, including Shenzhen
- Hubei province (tbc)

Europe:

- Rhine-Meuse delta
- Scheldt delta / West Flanders
- Limburg – Aachen region

Closing



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EMBRACE
WATER
in the urban
environment

Thank you for your
attention!



PBL Netherlands Environmental
Assessment Agency



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