



**THE FUTURE OF
GLOBAL
DISASTER
RISK REDUCTION**

DRR Measures for Disaster Resilient Cities

災害にレジリエントな都市に向けた減災政策

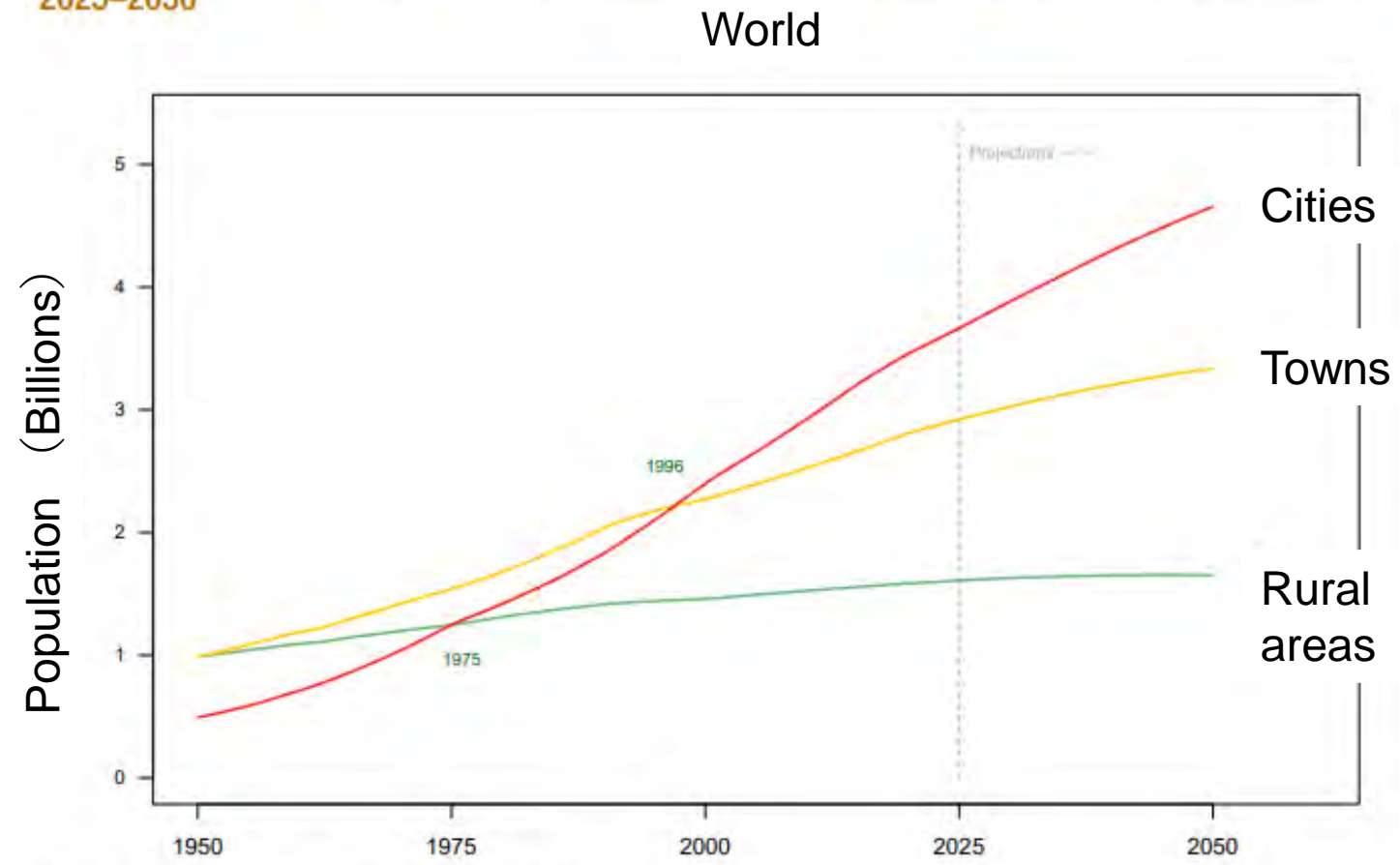
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STRENGTHENING THE RESILIENCE of MEGACITIES THROUGH SCIENCE, TECHNOLOGY & INNOVATION

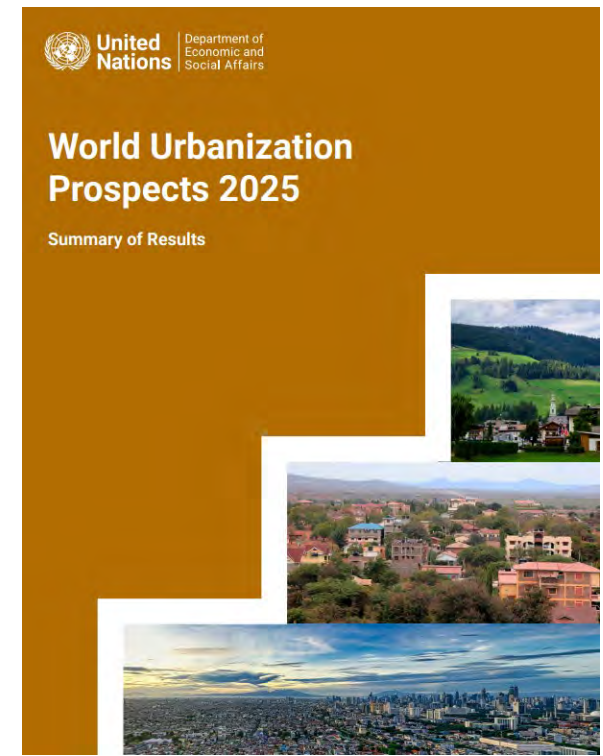
Future population increase in the world

Figure 1.1
World population living in cities, towns and rural areas, estimates, 1950–2025, and projections, 2025–2050



Source: World Urbanization Prospects 2025 (United Nations, 2025).

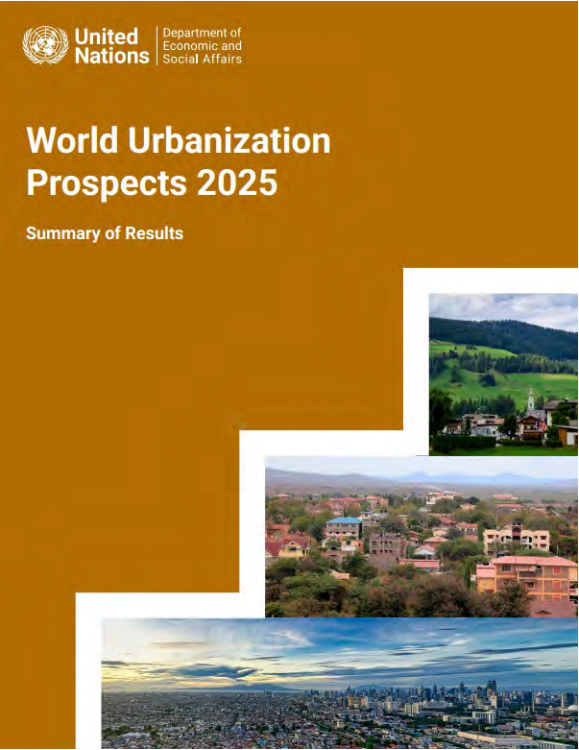
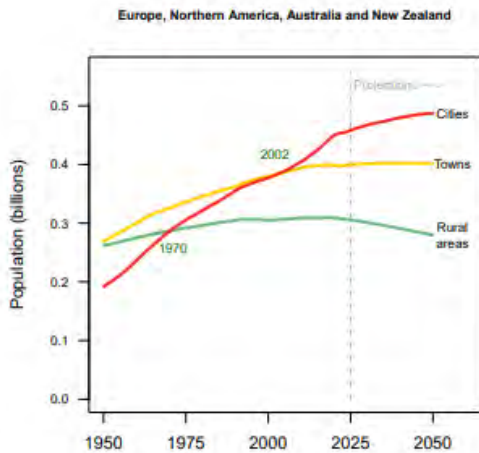
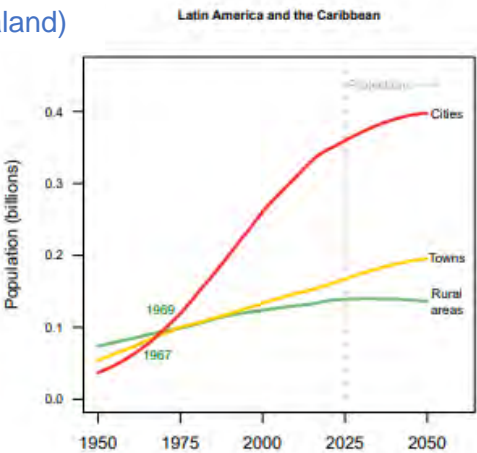
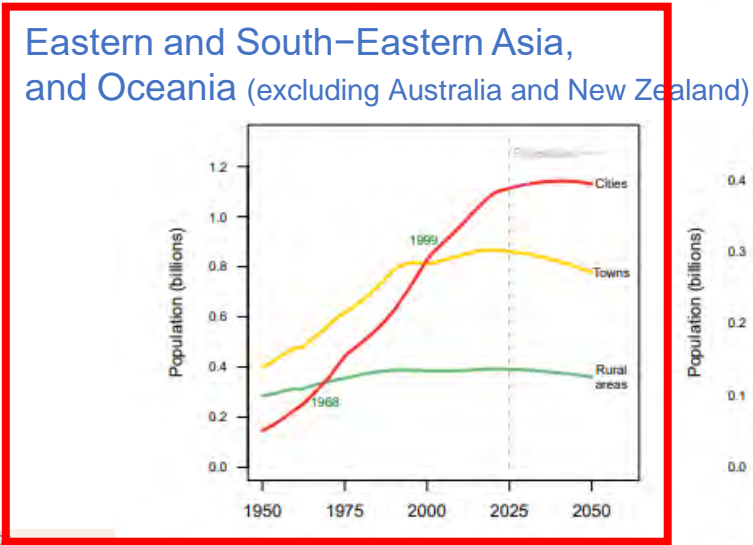
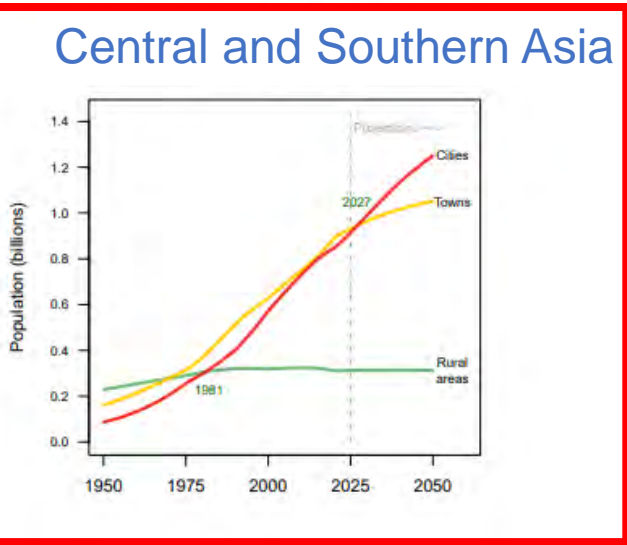
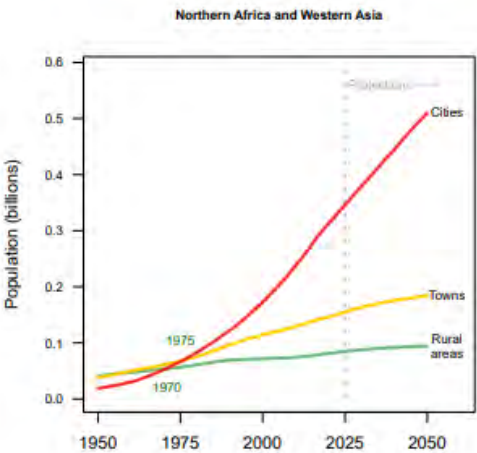
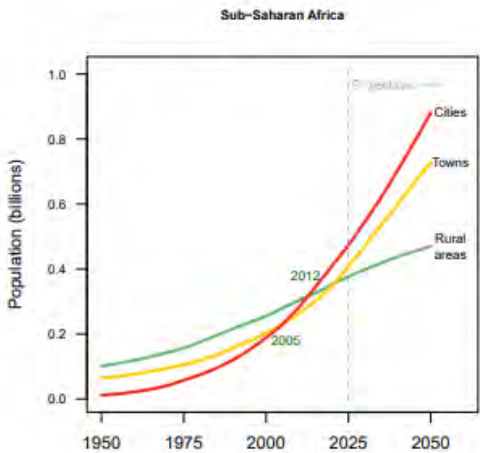
¹¹ Throughout this report, “towns” refers to the Degree of Urban classification termed “towns and semi-dense areas” (see box 1.1).



Source: UN Report

Future population increase in the world

Figure 1.3
Population living in cities, towns and rural areas by region, estimates, 1950–2025, and projections, 2025–2050



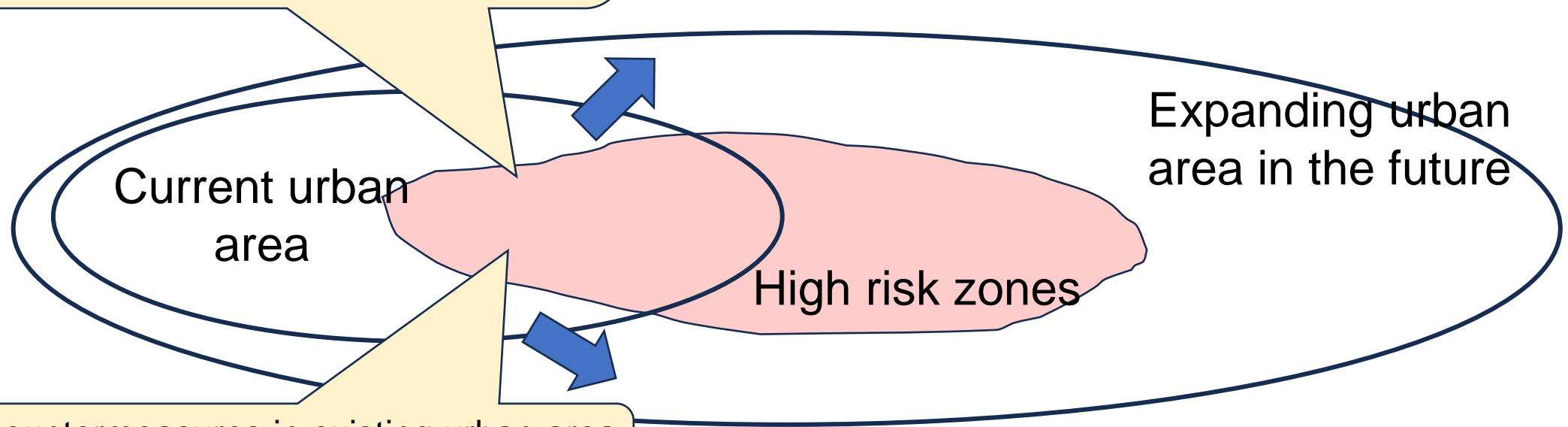
Source: UN Report

Source: World Urbanization Prospects 2025 (United Nations, 2025).

Mega cities with future population increase

It is necessary to control urbanization in low-lying /sloped area with disaster risk, and to promote urban development in safer areas with lower disaster risk.

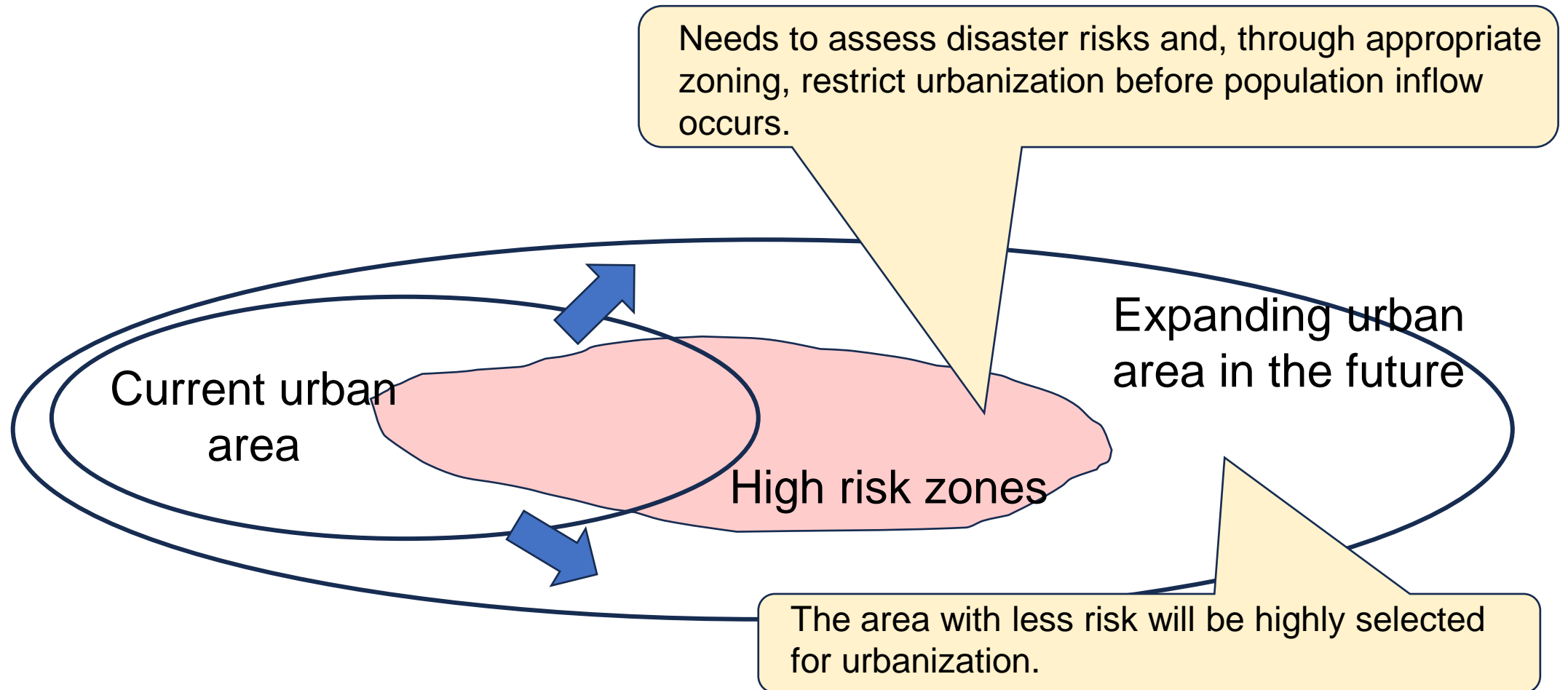
In areas where residents already live in high-risk zones, measures must be taken to prevent population increases caused by adverse selection—for example, due to lower land prices.



Disaster countermeasures in existing urban area needs to be encouraged according to the risk.

Mega cities with future population increase

It is necessary to control urbanization in low-lying /sloped area with disaster risk, and to promote urban development in safer areas with lower disaster risk.



Recommendation 1: Implement land use management based on disaster risk.

A. Highly accurate assessment of disaster risks

When implementing zoning, regulations, and guidance, it is necessary to evaluate disaster risks with high accuracy, including future risks.

- Further improvements in risk assessment technologies.
- Accumulate fundamental technical capacities, such as developing baseline data for accurate disaster risk assessments, compiling records of past disasters, and understanding disaster impacts tailored to regional characteristics.

B. Enhancing building consensus on the use of disaster risk information

Standards for how urban development should be carried out in areas with varying levels of disaster risk differ across countries and regions.

- Communicate disaster-risk information in an accessible manner to diverse groups, including socially vulnerable people who may reside in high-risk areas, thereby stimulating discussions on regional measures such as district designation and local ordinances.
- Through this process, consensus should be built regarding standards and policies for urban development that make effective use of disaster-risk information.



Diversity in high-risk area



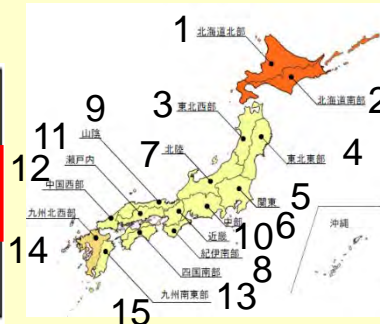
Recommendation 2: Accounting for uncertainties of future changes and disaster risks

When assessing disaster risks, it is necessary to take into account not only the uncertainties arising from the assessment methods and the data used, but also the uncertainties associated with future population trends and climate change. It is essential to implement multiple layers of measures to prevent catastrophic damage.

Design Rainfall Change Factor for Facility Planning
by the Council for Infrastructure of Japan in April 2021



Region	2°C	4°C	short		
Hokkaido	1.15	1.4	1.5	discharge	frequency
Kyushu	1.1	1.4	1.5	1.2 times	2 times
Others	1.1	1.2	1.3	1.4 times	4 times



Establishment of a new river planning method
based on state-of-the-art science and technology

