

Global Centre for Disaster Statistics

A joint initiative with UNDP contributing
to the Sendai Framework
for Disaster Risk Reduction and SDGs

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Global Centre for Disaster Statistics (GCDS)

FUJITSU



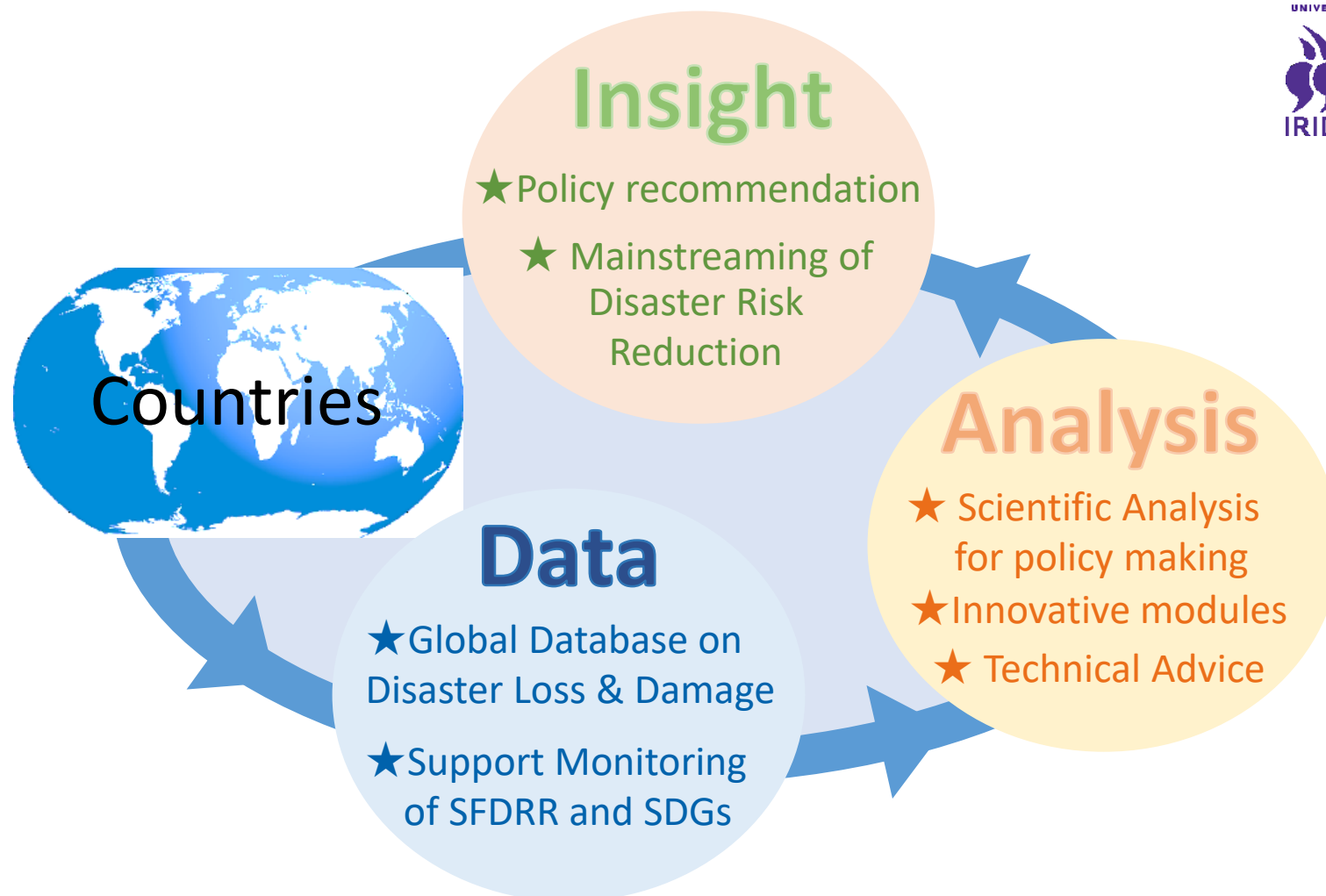
TOHOKU
UNIVERSITY



IRIDeS



Empowered lives.
Resilient nations.



Introduction

United Nations Development Program (UNDP) and the International Research Institute of Disaster Science (IRIDeS) at Tohoku University jointly announced the establishment of the Global Centre for Disaster Statistics (GCDS) in March 2015 during the Third UN World Conference on Disaster Risk Reduction (WCDRR) in Sendai.

Voices of support and expectation to this initiative were received, including the UN Secretary-General Ban Ki-moon.



Establishment ceremony of GCDS at the WCDRR



UN Secretary-General Ban Ki-moon's speech at Tohoku University Symposium Forum held in the WCDRR

Objectives of the GCDS

The GCDS contributes to sustainable development based on risk informed policy making.

- Support the United Nations International Strategy for Disaster Reduction (UNISDR) and countries for monitoring the progress of Sendai Framework for Disaster Risk Reduction and 2030 Agenda for Sustainable Development
- Provide scientific analysis and technical advice on their disaster loss and damage data
- Provide policy advice to build capacities of national/local governments based on their demands

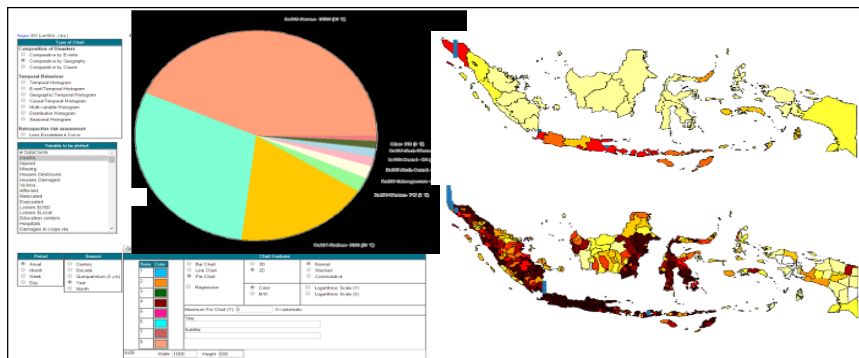
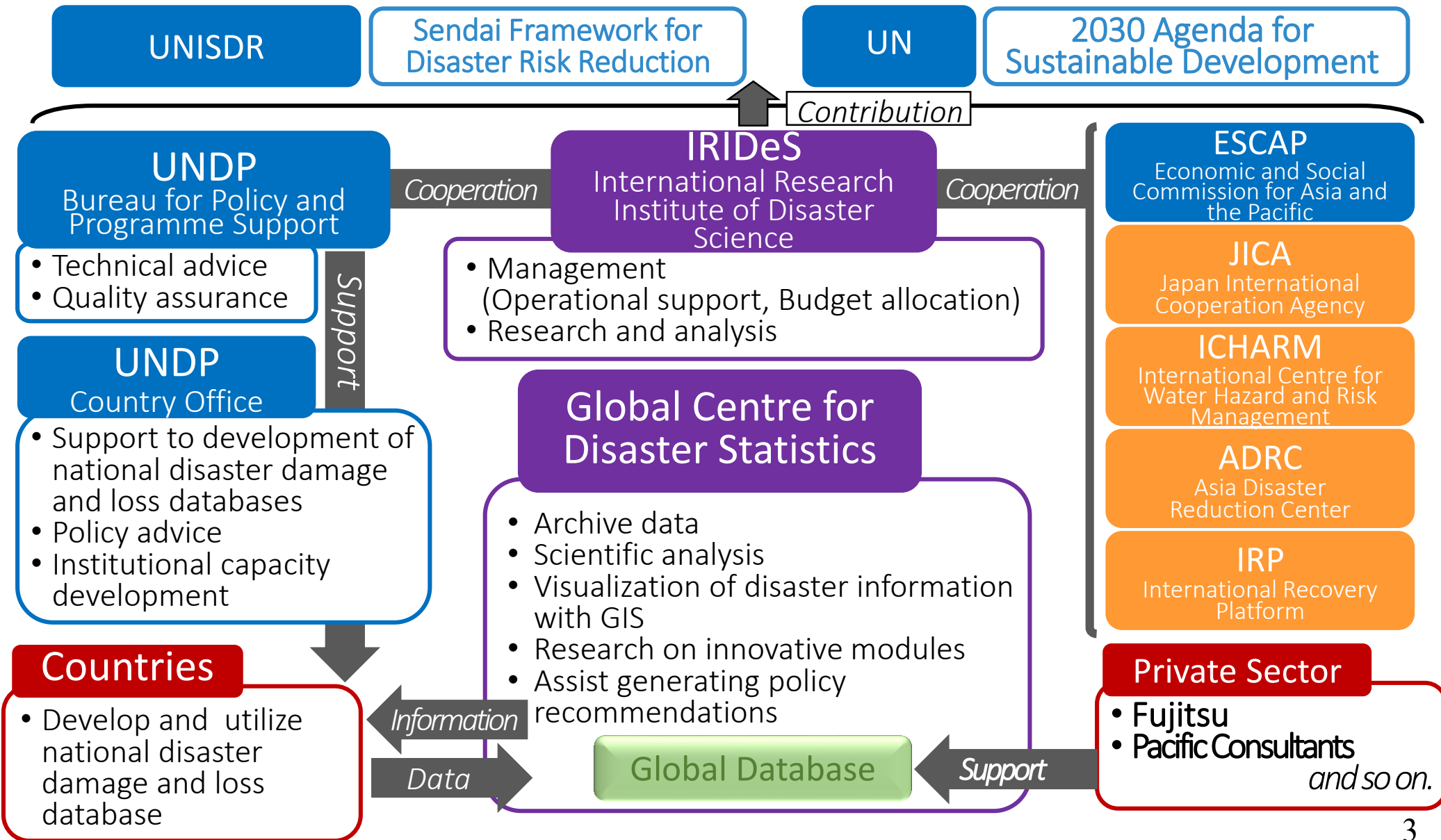


Image of tools to visualize data
Examples from the DesInventar system [right] and DIBI (Indonesian disaster data and information)[left]

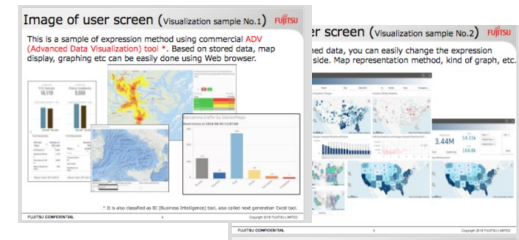
Detailed Scheme of the GCDS



Schematic Design of the White Paper

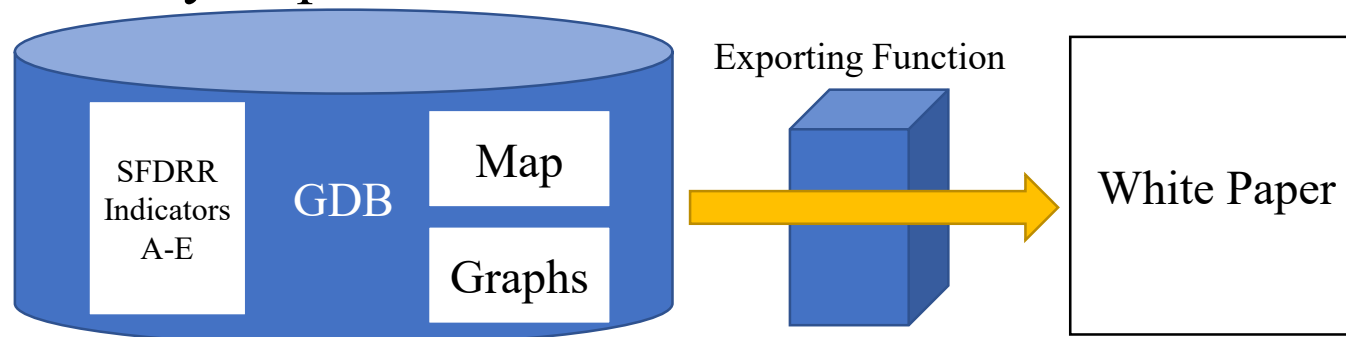
- The Global Database (GDB) supplied by the Cloud Service K5 of Fujitsu provides:
 - Values of the SFDRR Indicators A-D
 - Visualized Statistics (e.g., Maps and Graphs)

Function of the GDB



Source: Fujitsu “Concept of systemization for full scale operation for 2020,” Tripartite Monthly Meeting on Jan 29, 2018

- The White Paper would consist of:
 - Understandable visualized figures (e.g., Maps and Graphs)
 - Data interpretations
 - Policy implications



Macro-economic Analysis at the GCDS

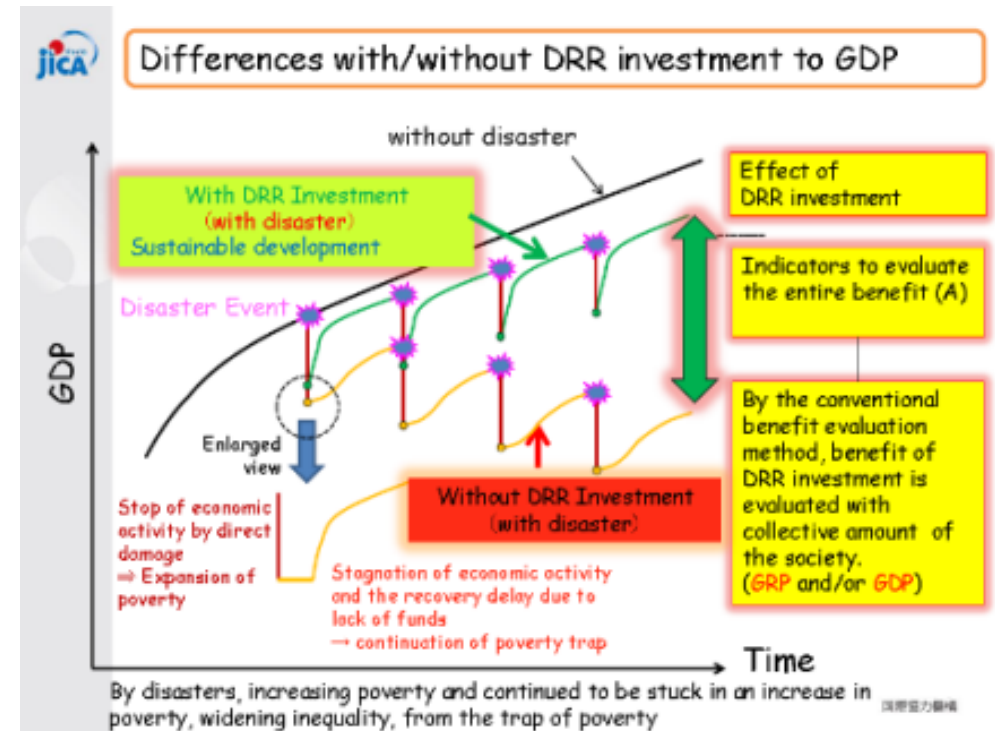
[Analysis based on collected disaster loss data]

- Macro-economic analysis

- *One example of the analysis to evaluate the effect of pre-disaster investment

- Analysis based on disaggregated data

- *Data disaggregated by social, demographic, and economic characteristics



DR²AD model, developed by JICA, to quantitatively estimate the effect of pre-disaster investment to economic development

Abstract of Model

Dynamic Stochastic Macroeconomic Model of DRR Investment

- ① This model proved that DRR investments effectively contributed to (1) sustainable economic growth and (2) poverty alleviation.
- ② It is possible to evaluate the effect of DRR investment for a long-term period by using the model.

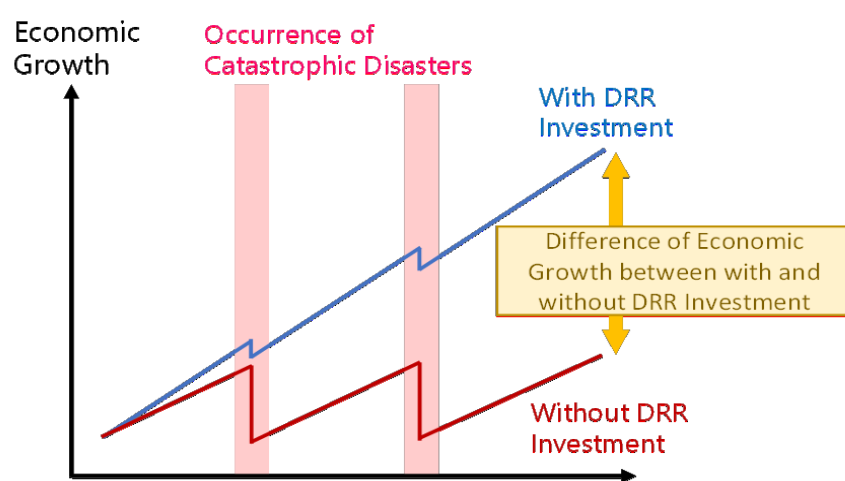


Fig. Image of Sustainable Economic Growth

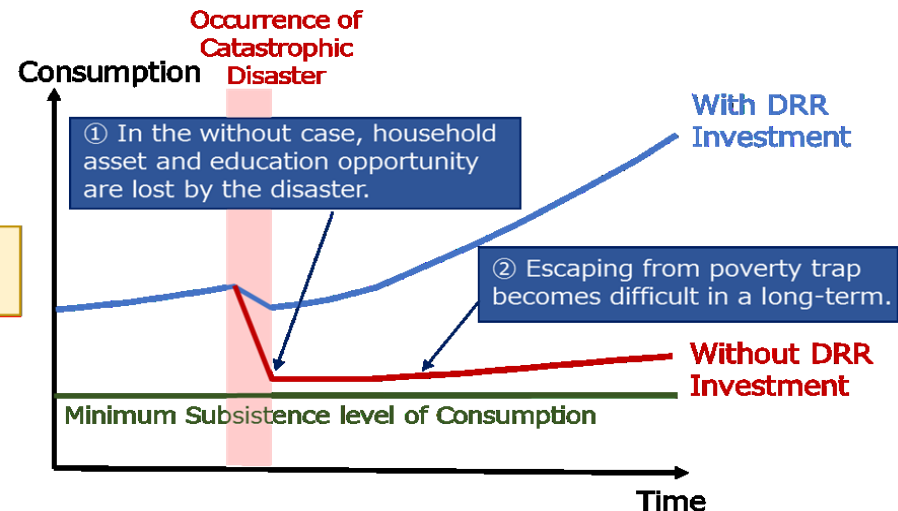


Fig. Image of Poverty Alleviation

Results of Case Study in Pakistan

GDP

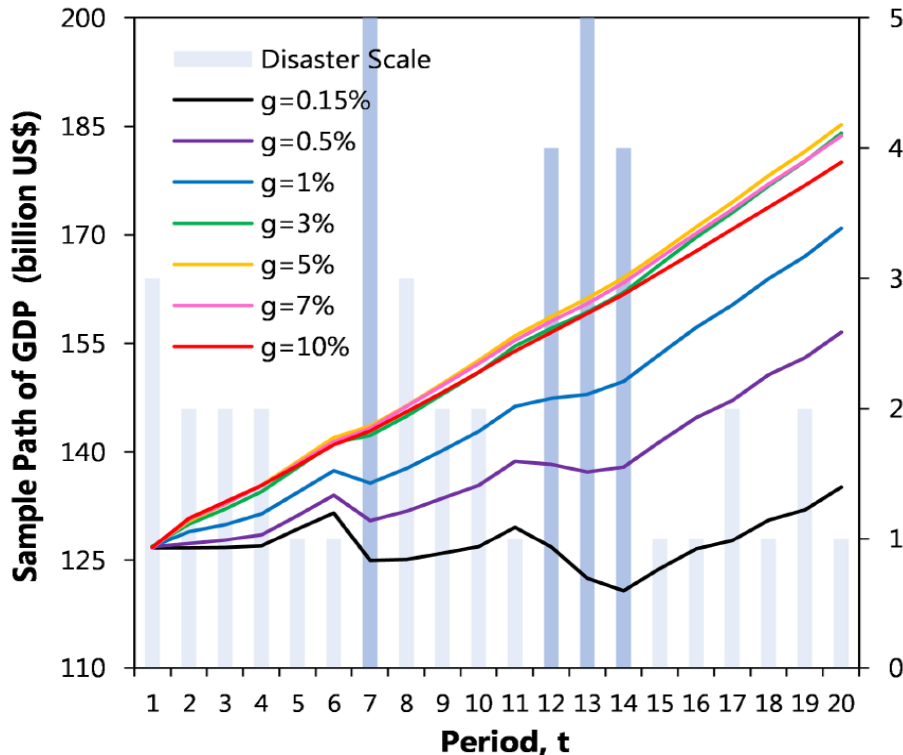


Fig. GDP Growth by DRR level (Sample Path)

Consumption

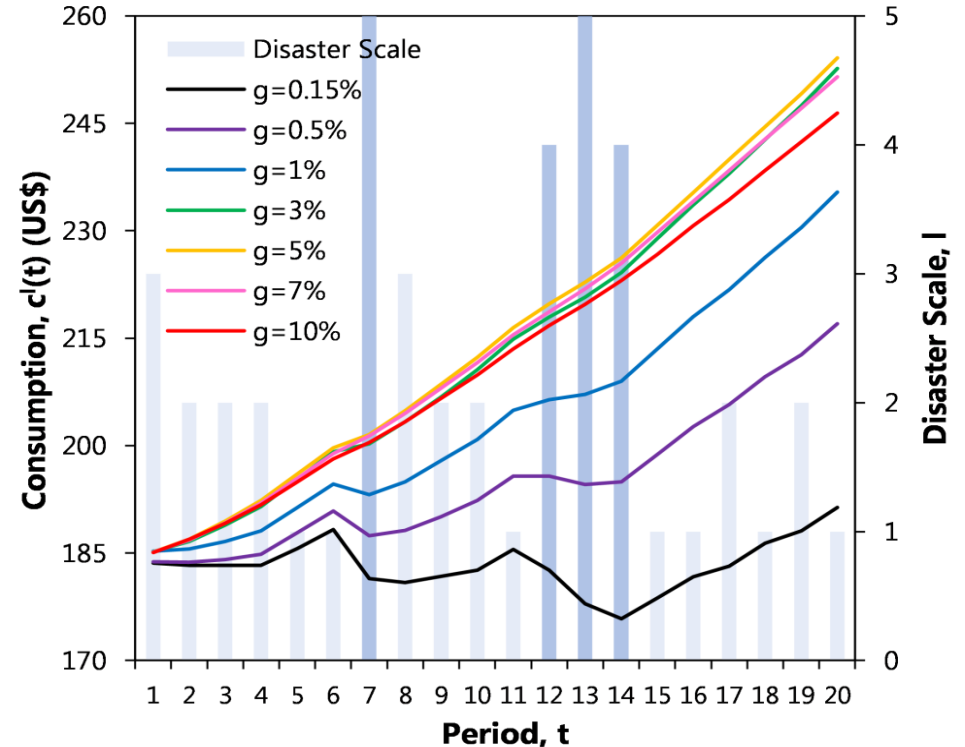


Fig. Consumption by DRR level (Sample Path)

※ Source : Ishiwata and Yokomatsu (accepted, 2018)

Optimal percentage of DRR investment is approximately 3 ~ 5% of GDP (4~9 billion USD / year)

Academic Contributions of the GCDS

The GCDS is now preparing to publish several academic articles regarding disaster statistics this year.

The examples of statistical analyses are as follows:

- ❑ Macroeconomic analysis
- ❑ Health Issues
- ❑ Civil engineering
- ❑ Analysis between hazards and disasters
- ❑ Linkage with historical data
- ❑ Impacts of climate change

World BOSAI Forum

Spin disaster knowledge to
Weave BOSAI wisdom

2nd Nov.9-12, 2019
IDRC 2019 in SENDAI JAPAN

| Venue | Sendai International Center/
Kawauchi Hagi Hall, Tohoku University

***BOSAI** is a traditional Japanese term, indicating a holistic approach to reduce human and economic losses from disasters, which represents activities in all disaster phases, including prevention, recovery, response and mitigation.*

www.worldbosaiforum.com



World Bosai Forum Secretariat

