IRDR-ICoE: Risk Interconnectivity and Governance on WEather/Climate Extremes Impact and Public HEalth

(IRDR-ICoE-RIG-WECEIPHE)

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01 Rationale
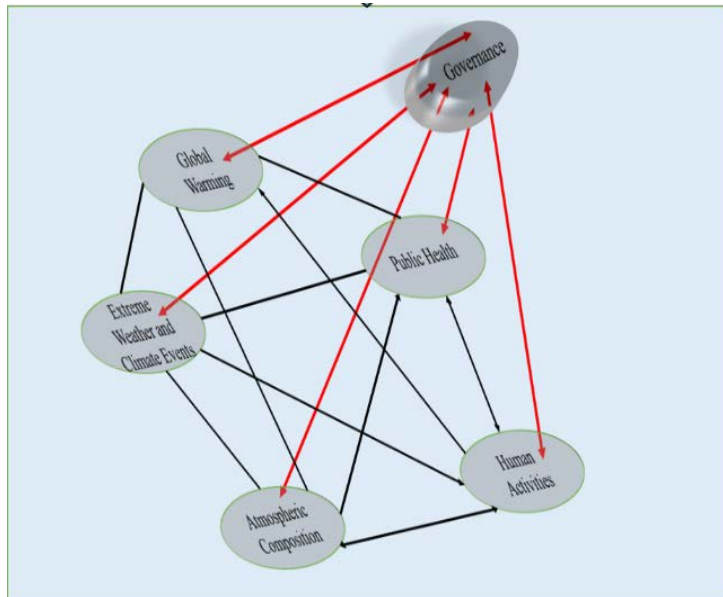
Interconnectivity map of global risks (WEF-GRR, 2020)
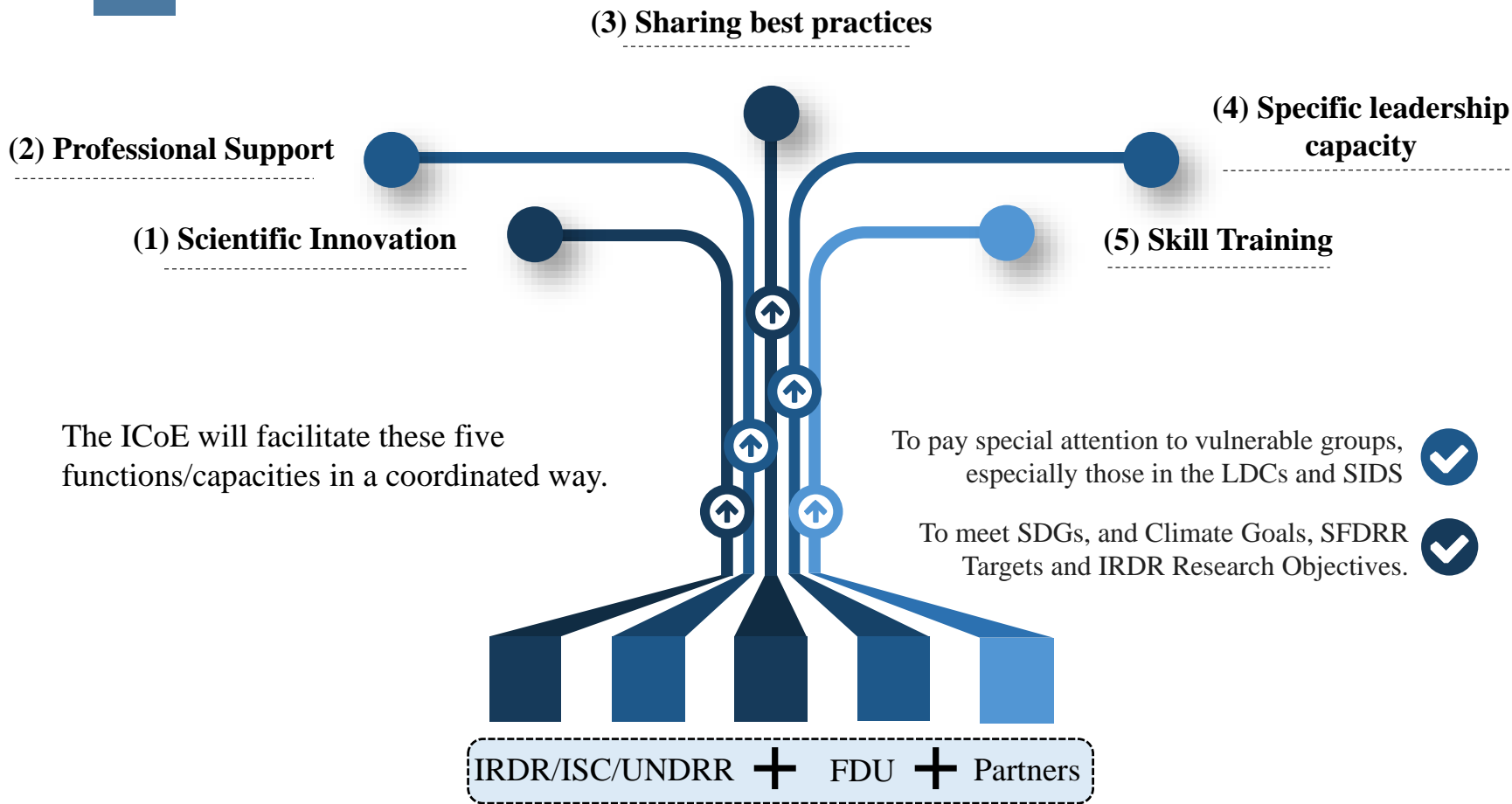
Risk Interconnection

Needs to upgrade from individual impact studies to integrated approach for better governance.

- The impact of climate change is not only scientific scenarios in the long run, but also a climate emergency and crisis which is happening at the moment. (e.g. heatwave, wildfire)
- Global climate and air pollution risks and their impacts on public health are of a high degree feature of without borders. (e.g. epidemic diseases: dengue, malaria, influenza)
- Yet up to date, few researches were conducted to explore the interconnectivity of those risks and their impacts on the public health.

02 Mission and value chain

ICoE Mission

(3) **Sharing best practices**

(4) **Specific leadership capacity**

(2) **Professional Support**

(1) **Scientific Innovation**

(5) **Skill Training**

The ICoE will facilitate these five functions/capacities in a coordinated way.

To pay special attention to vulnerable groups, especially those in the LDCs and SIDS

To meet SDGs, and Climate Goals, SFDRR Targets and IRDR Research Objectives.
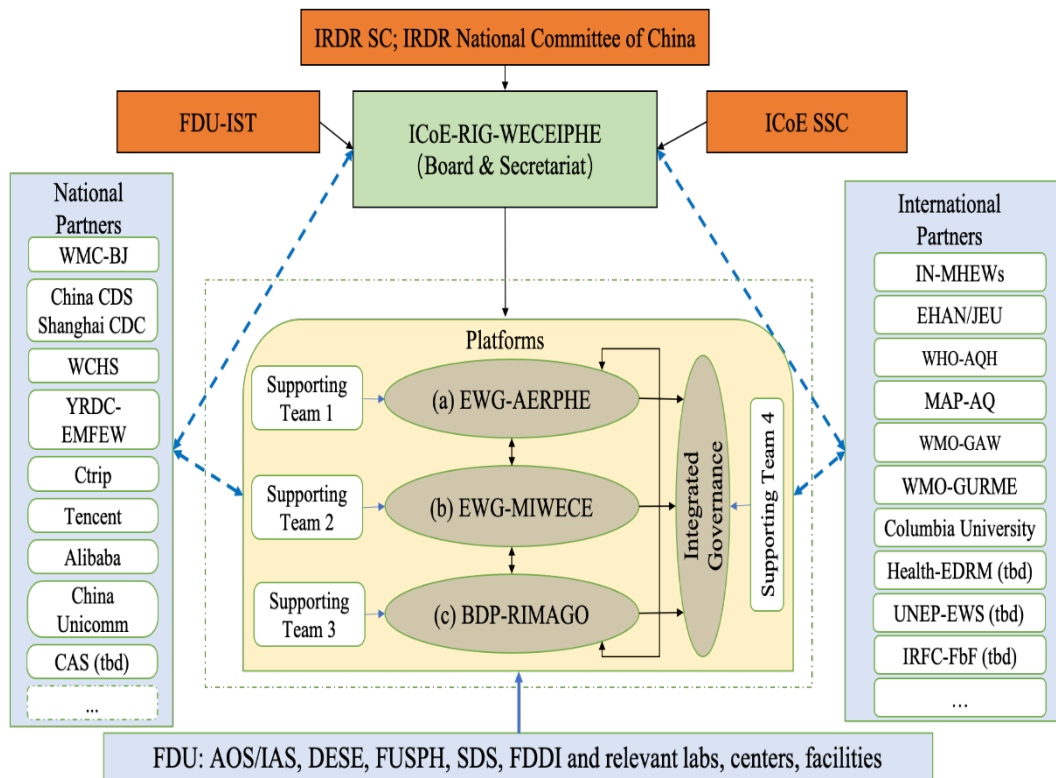
IRDR/ISC/UNDRR ✚ FDU ✚ Partners

03 ICoE Development

ICoE Structure
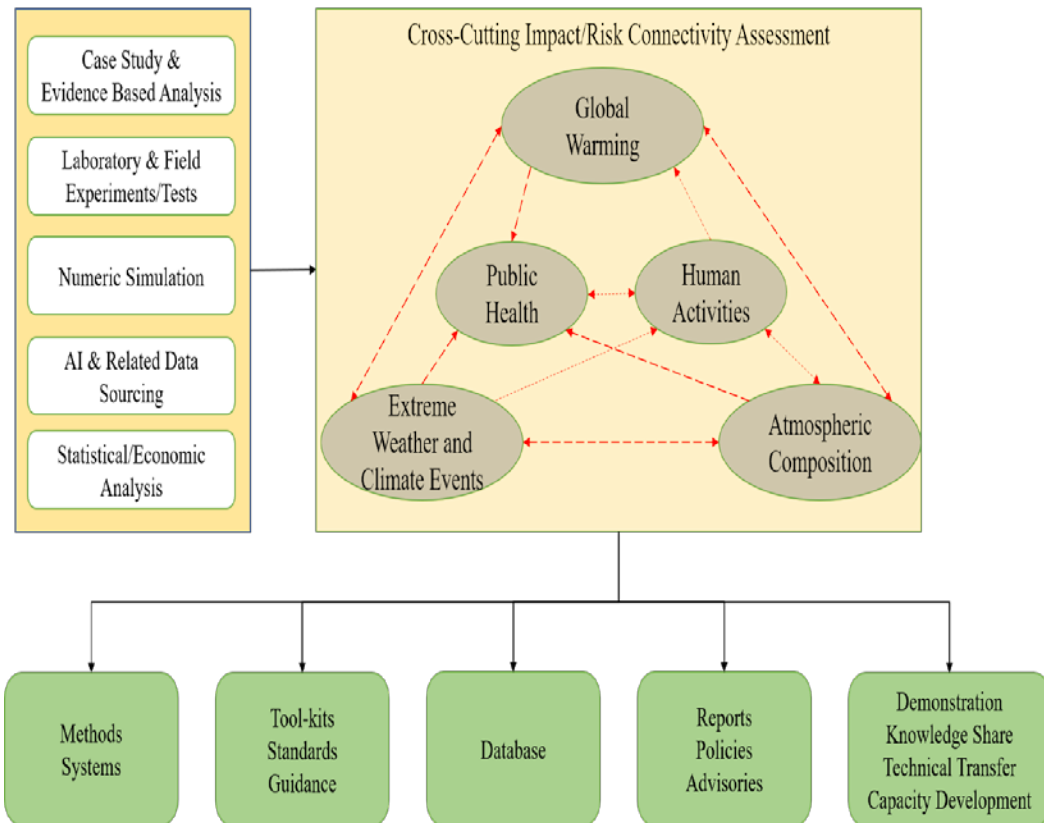

Platforms/Pillars

(a) EWG-AERPHE

    Early Warning and Governance on Atmospheric Environment Risks on Public HEalth

(b) EWG-MIWECE

    Early Warning and Governance on Multiple Impacts of WEather/Climate

(c) BDP-RIMAGO

    Big Data Processing in support of RIsk MAnagement and GOvernance

- to establish practical, actionable, transferable eligible interdisciplinary international expert teams

- with the support of the joint resources of Fudan University and relevant national and international partners

- to conduct cross-cutting impact/risk connectivity assessment and

- for knowledge innovation and its sharing and transfer in the fields of multi-risk interconnectivity in global climate change and its environment and health impacts.

Science and education in service to society

Case Study & Evidence Based Analysis

Laboratory & Field Experiments/Tests

Numeric Simulation

AI & Related Data Sourcing

Statistical/Economic Analysis

Cross-Cutting Impact/Risk Connectivity Assessment

Global Warming

Public Health

Human Activities

Extreme Weather and Climate Events

Atmospheric Composition

Methods Systems

Tool-kits Standards Guidance

Database

Reports Policies Advisories

Demonstration Knowledge Share Technical Transfer Capacity Development

Impact of climate warming on public health

1

Impact of extreme weather/climate events on public health

2

Impact of variation in atmospheric composition (including air pollution) on public health

3

4

Multi-risk big data modeling and analysis technologies on interconnection, risk prediction and early warning

5

Public governance and decision supporting consultation

04

Expected Outcomes

Significant progress on transdisciplinary innovation and integration

Technical transfer (e.g. toolkits) and technical advisory for related humanitarian activities

Make a tangible contribution to IRDR Goals and SFDRR Targets, including but not limited to:

Unhindered access to 3 pillars/platforms and big data database on multi-risk and its connectivity

Capacity development and regional demonstration, especially in LDCs

05 Available resources and capacity

Global Reputation

FDU is one of the most prestigious comprehensive universities in China with multi-disciplinary of humanities, social sciences, sciences, engineering, and medicine. It is ranked within the top 5% of universities in the world.

- QS ranking 2021: 34th

- THE ranking 2021: 70th

- ARWU ranking 2020: 100th

FDU Support Units

- Department of Atmospheric and Oceanic Sciences / Institute of Atmospheric Sciences

- School of Public Health

- Department of Environmental Sciences and Engineering

- School of Data Science / Institute of Big Data

- Development Institute

- **Monitoring, Analysis, and Prediction of Air Quality** (MAP-AQ) Asian Office Shanghai
- Joint Lab on Marine Meteorology and Oceanography between Fudan University and **China Meteorological Administration** (CMA)
- **National Center** for Medical Security Pharmaceutical Economics and Health Technology Assessment
- Key Laboratory of Public Health Safety, **the Ministry of Education**
- Key Laboratory of Health Technological Assessment, **the Ministry of Education** / **WHO** Collaborative Center on Health Technological Assessment and Management
- Key Laboratory of Atmospheric Particle Pollution and Prevention, **Shanghai Municipal Government**
- Key Laboratory on Weather/Climate and Health, **Shanghai Municipal Government**
- Yangtze River Delta Center for Environmental Meteorological Forecast and Early Warnings, **Shanghai Meteorological Administration**
- Shanghai Qizhi AI Institute, **Shanghai Municipal Government**
- Big Data Institute for Carbon Emission and Environmental Pollution, **Fudan University**
- Institute of Population Data and Public Governance, **Fudan University**
- Institute of Medical Informatics and Image Intelligent Diagnostic, **Fudan University**
- Institute for Humanities and Social Science Data, **Fudan University**
- Institute of Artificial Intelligence and Deep Learning, **Fudan University**
- Development Institute (FDDI) with its International Advisory Board on policy and governance, **Fudan University**
- The Think Tank Alliance of the **Universities in Yangtze Delta Region** and Institute for development integration in Yangtze Delta Region, **Fudan University**

Happy to join IRDR-ICoEs! Looking forward to learning from you!

ICoE-DCE

ICoE-RIG-WECEIPHE

ICoE-VaRM

ICoE-REaL

ICoE-RCS

ICoE-RIA

ICoE-IRDRS

ICoE-TDDR

ICoE-DRHBPI

ICoE-Taipei

ICoE-CR

IRDR

ICoE-SDS IDRR

ICoE-CI&SP

ICoE-NSET

ICoE-UR&S

ICoE-SEADPRI-UKM

ICoE-CCOUC

THANKS