

DAAD Global Centres for Climate and Environment

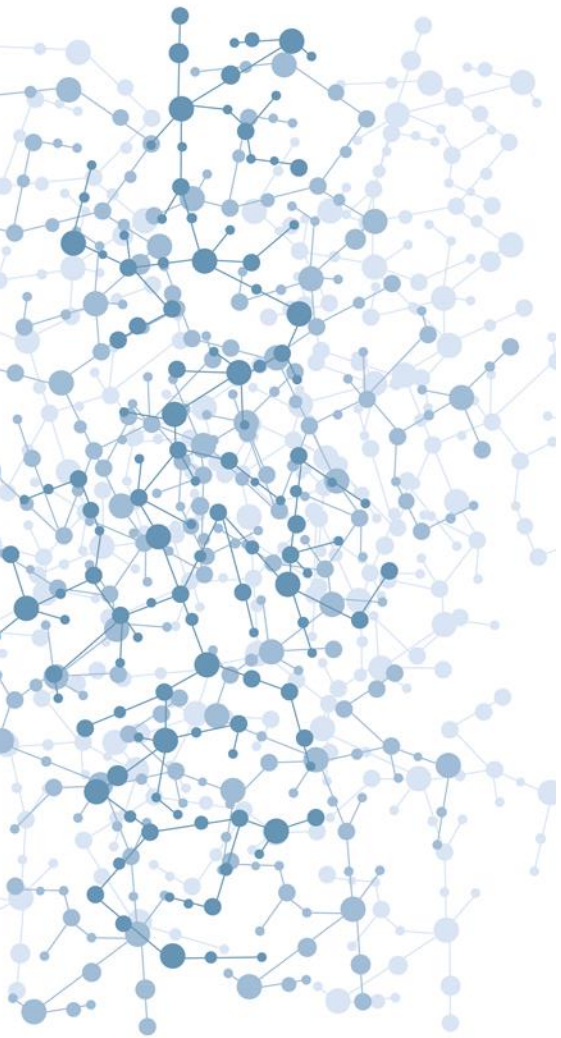
Global Water and Climate Adaptation Center

ABCD-Centre *Aachen – Bangkok – Chennai – Dresden*

*eine Forschungs Kooperation zu
Klimaanpassungsstrategien im Wassersektor*

45. Dresdner Wasserbaukolloquium
Nachhaltigkeit im Wasserbau - Umwelt, Transport, Energie
Prof. Dr. Jürgen Stamm (vertreten durch Dr. André Lindner)

“Climate change is one of the key multidimensional issues that will affect water security throughout the Asian region [...] it is commonly noted that mitigation is largely about gas, while adaptation is about water.”



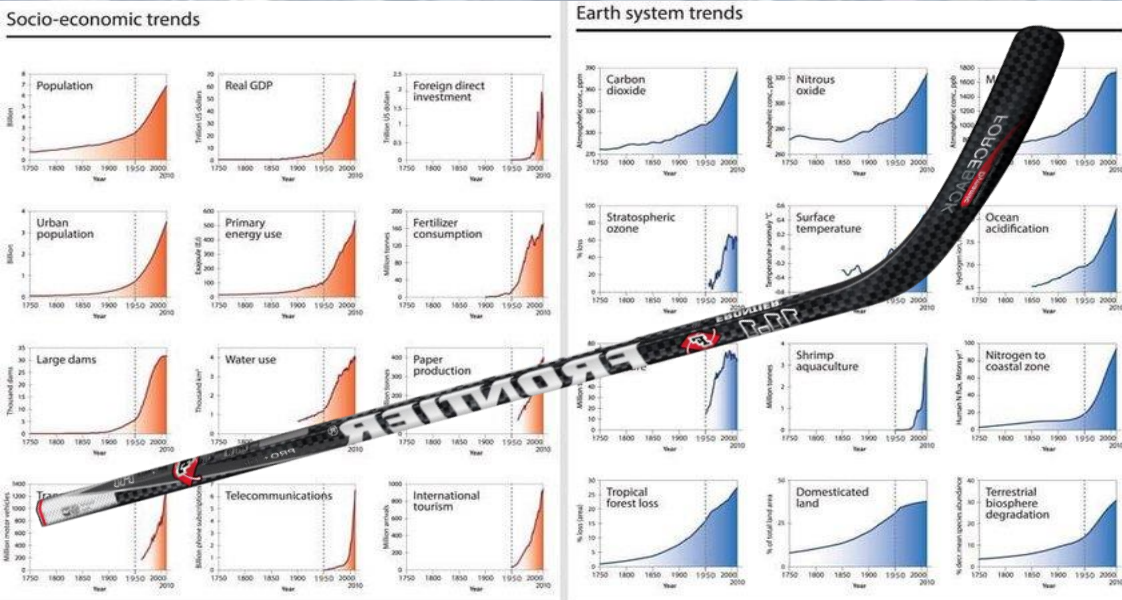
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“Ecosystems transcend political borders, and water is the lifeline for all biological systems [...] attempts to contain water by geographies are bound to have serious consequences on the natural system and also increase economic and political tensions.”

Big Planet – Small World

Small Planet – Big World



Updated Great Acceleration Graphs

Source: Will Steffen et al. "The trajectory of the Anthropocene: The Great Acceleration." The Anthropocene Review, March 2015



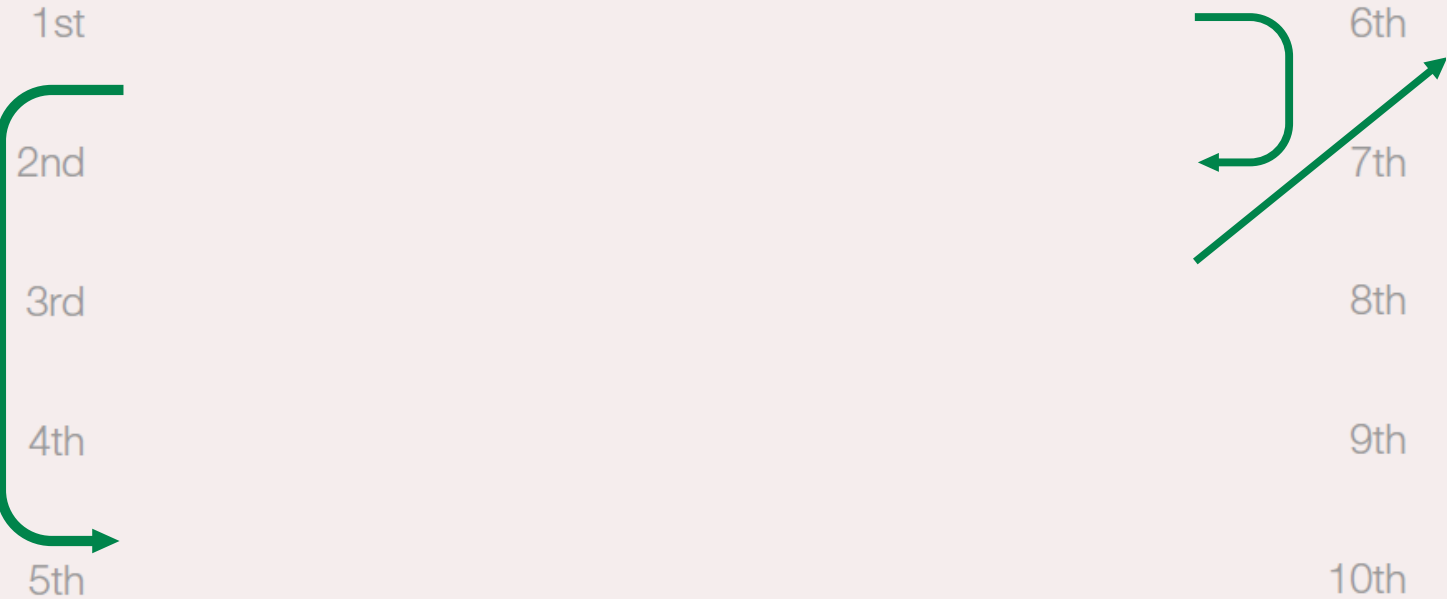
CC

water security

“Identify the most severe risks on a global scale over the next 10 years”

→ COVID, Ebola, Zika, SARS, HIV – all caused by **zoonoses**
→ drivers: land-use change, agriculture, trade & consumption
→ at least **630.000** viruses **with human-pathogenic potential**
→ **>1 trillion USD damage vs 30 billion USD prevention costs**

■ Economic ■ Environmental ■ Geopolitical ■ Societal ■ Technological

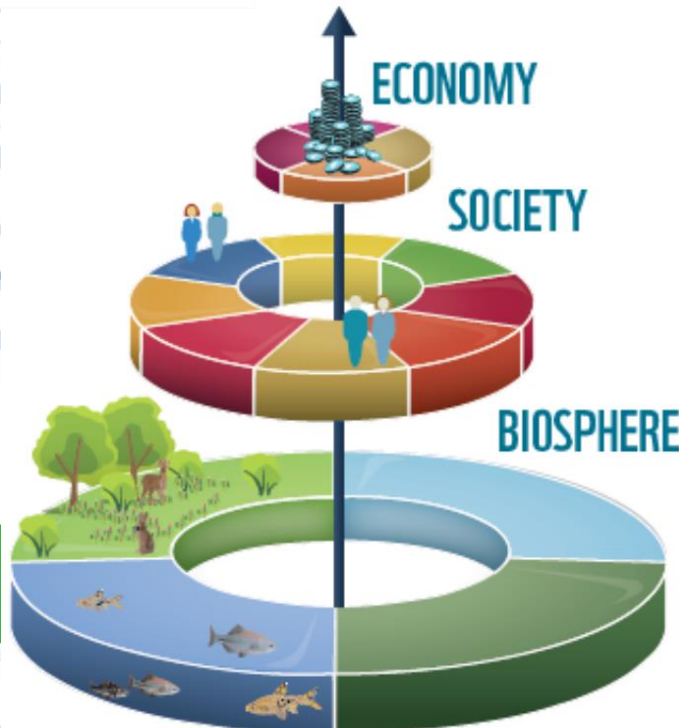


Source: World Economic Forum Global Risks Perception Survey 2021-2022



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SUSTAINABLE DEVELOPMENT GOALS



ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

BEFORE COVID-19

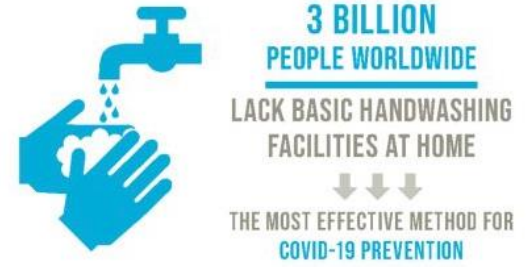
DESPITE PROGRESS,
BILLIONS STILL LACK
WATER AND SANITATION SERVICES



TWO IN FIVE
HEALTH CARE FACILITIES
WORLDWIDE HAVE
NO
SOAP AND WATER OR
ALCOHOL-BASED
HAND RUB
(2016)



COVID-19 IMPLICATIONS



WATER SCARCITY
COULD DISPLACE
700 MILLION PEOPLE
BY 2030



SOME COUNTRIES EXPERIENCE
A **FUNDING GAP OF 61%** FOR ACHIEVING
WATER AND SANITATION TARGETS

© UN Water

JUSTIFICATION

Water Security

Climate Adaptation



Water can be a hazardous element as well as the most desired asset.



Aachen, Germany

Bangkok, Thailand

Chennai, India

Dresden, Germany

3 Research Cluster Approach

- climate adaptation and water security as a **scientific and societal challenge**
- development of a **global hub for water security and climate adaptation research**



agriculture

© ADB



infrastructure

SUSTAINABLE DEVELOPMENT GOALS

Water Security & Water Resources Management

water supply – water treatment

Ecosystem Resilience & Nature-Based Adaptation

ecosystem functioning – nature’s contribution to people

Transfer Strategies for Climate Adaptation

traditional knowledge – local economies – societal acceptance

© M. DeFreese/CIMMYT



water availability and access





3 Pillar Operative Structure



Teaching

- new Joint Master Programme „Water Security and Global Change“
- integration of existing programmes
- continuing education of *Change Agents*



PhD Research & *Living Lab*

- Educating responsible future environmental leaders

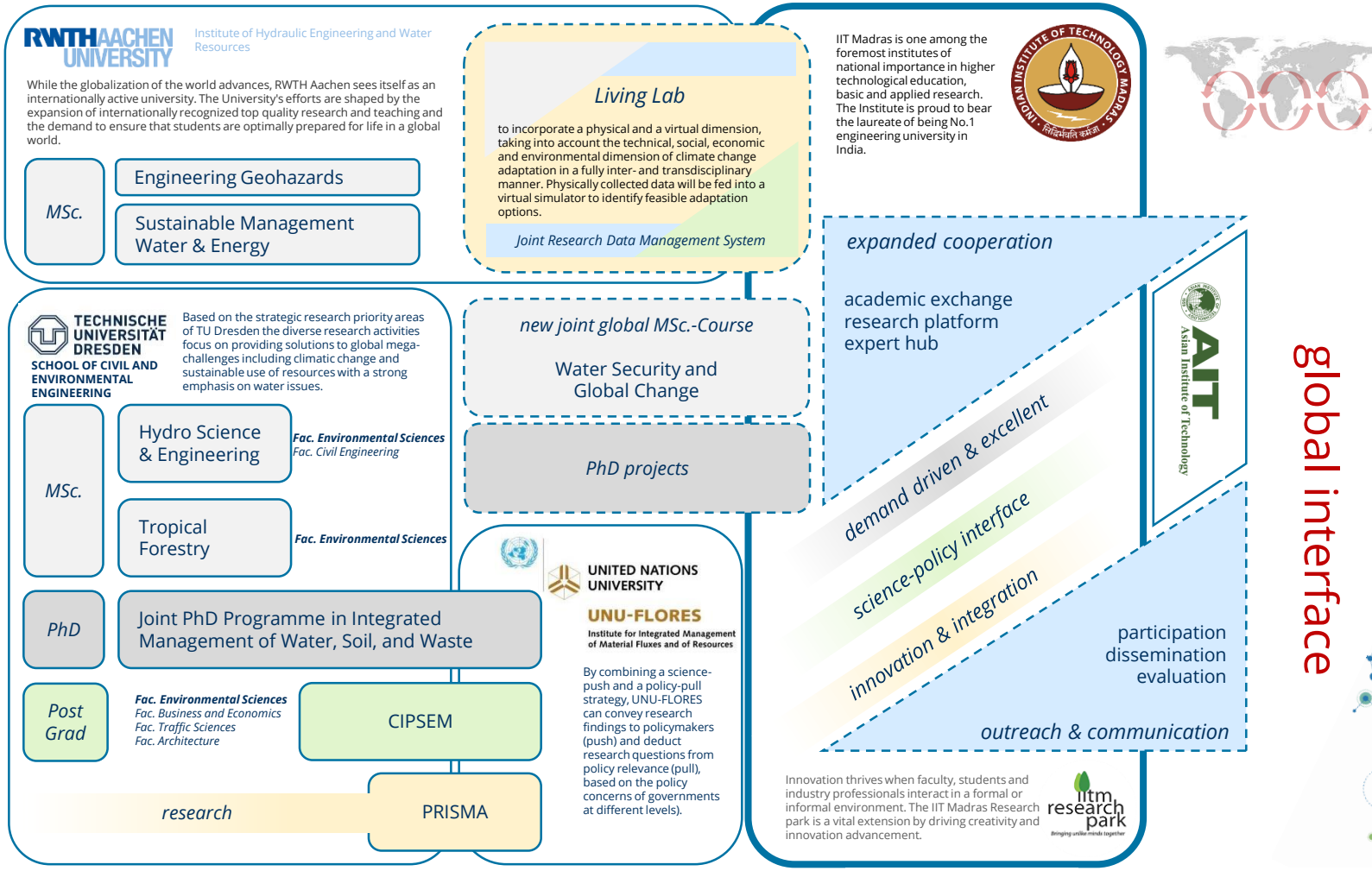


Transfer

- Enabling effective transfer by dialogue among science and global society

Aachen - Bangkok - Chennai - Dresden Global Water and Climate Adaptation Center

Germany



IGGS
INDO-GERMAN Centre
for SUSTAINABILITY



CIPSEM
www.tu-dresden.de/cipsem

PRISMA
Performance and Policy
Research In Sustainability
Measurement and Assessment



global interface



South Asia and beyond



Digitalization & Sustainability

- interactive and immersive teaching and learning experience
- digital classrooms and cooperation tools
- hybrid formats and events
- digital *Living Lab*



© RWTH Aachen



OBJECTIVES 2025 (and beyond)

GLOBAL WATER AND CLIMATE ADAPTATION CENTRE

ABCD-CENTRE

Aachen, Bangkok, Chennai, Dresden



- **provide** study opportunities in relevant disciplines and enable graduates for the international job market
- **establish** state-of-the-art research capacity and create networks to address inter- and transdisciplinary issues
- **facilitate** a sustainable platform for the acquisition of further impactful research projects
- **reduce** the carbon and environmental footprint of higher education, research and international cooperation
- **contribute** to the visibility of the *Global Centres* and raise awareness about the climatic and environmental challenges
- **transfer** novel scientific findings and innovative inventions into policy and practice



Federal Foreign Office



Global Centres

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German Academic Exchange Service



DRESDEN
concept



since the last 45 years

UNEP/UNESCO/BMUV International Postgraduate Course Programme



Environmental Management for Developing Countries



1977

2022



United Nations
Environment Programme



United Nations
Educational, Scientific and
Cultural Organization



Federal Ministry
for the Environment, Nature Conservation,
Nuclear Safety and Consumer Protection

higher education in sustainable
management for future decision
makers & potential change agents



Delegation Armenia UNFCCC COP26, Glasgow



United Nations Framework
Convention on Climate Change



IMPLICATION

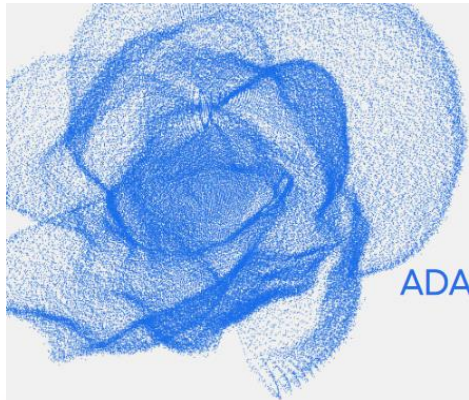


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1 – Ms. Hasmik Bersaghyan
President
*European Youth Parliament for Water
2019 @ CIPSEM*

2 – Ms. Nune Sakanyan
Founder/President
*Women in Climate and Energy
2020 @ CIPSEM*

3 – Mr. Erik Grigoryan
former Minister for the Environment
UN and EU consultant
2007 @ CIPSEM



Water Security and Climate Change Conference

ADAPTATION FOR SUSTAINABLE AND RESILIENT DEVELOPMENT

CALL FOR ABSTRACTS

01-03 DECEMBER 2022



UNU-FLORES

Institute for Integrated Management of Material Fluxes and of Resources



GLOBAL WATER AND CLIMATE ADAPTATION CENTRE

ABCD - CENTRE

Aachen, Bangkok, Chennai, Dresden



www.abcd-centre.org



Prof. Dr. Jürgen Stamm
project lead



Dr. Firas Aljanabi
project coordination

✉ abcd-centre@tu-dresden.de



SUSTAINABLE DEVELOPMENT GOALS

THANK YOU!



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