

Centre for International Postgraduate Studies of Environmental Management (CIPSEM)

Integrated Postgraduate Education for Sustainable Development

45 years of experience in environmental management for experts from the Global South

Dr. André Lindner

School of Civil and Environmental Engineering

andre.lindner@tu-dresden.de

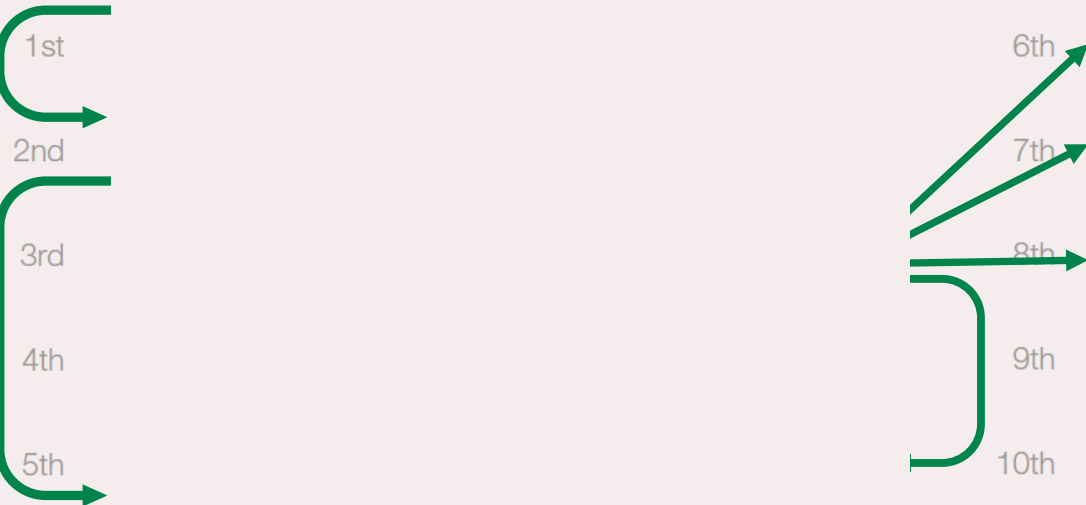
+49 351 463-34899

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

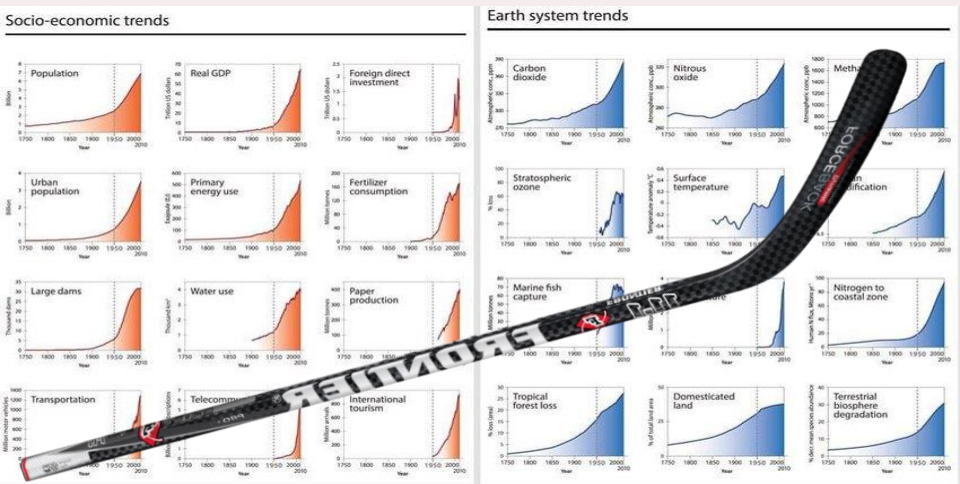
IPBES, 2021

→ 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

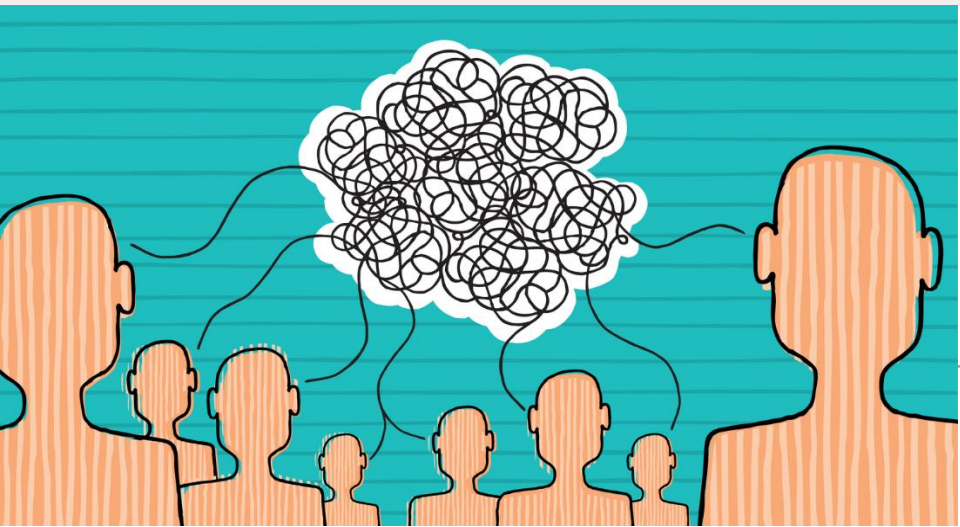
■ Economic
 ■ Environmental
 ■ Geopolitical
 ■ Societal
 ■ Technological

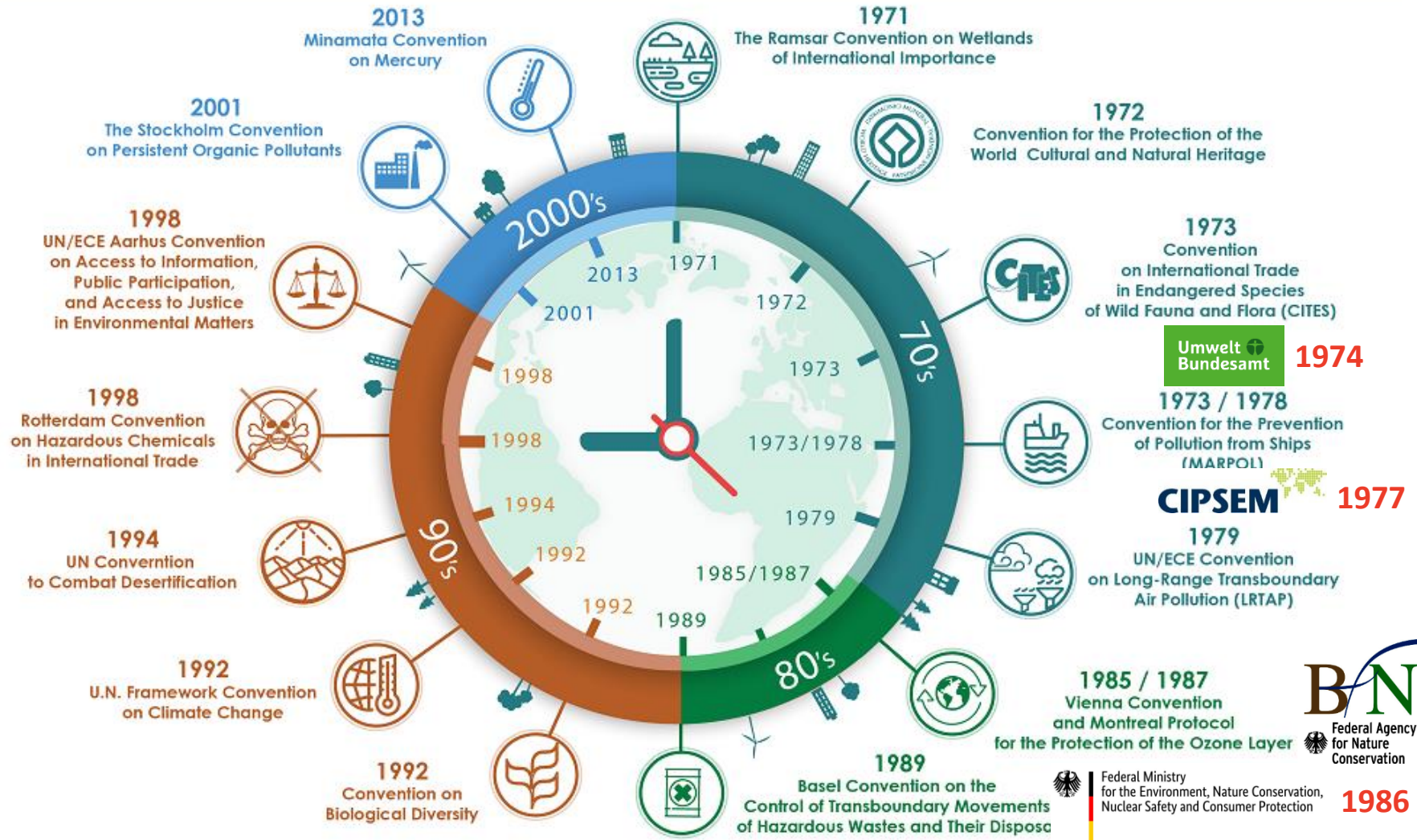


Source: World Economic Forum Global Risks Perception Survey 2021-2022



Updated Great Acceleration Graphs
 Source: Will Steffen et al. “The trajectory of the Anthropocene: The Great Acceleration.” The Anthropocene Review, March 2015





Environmental Management for Developing Countries



1977

2022



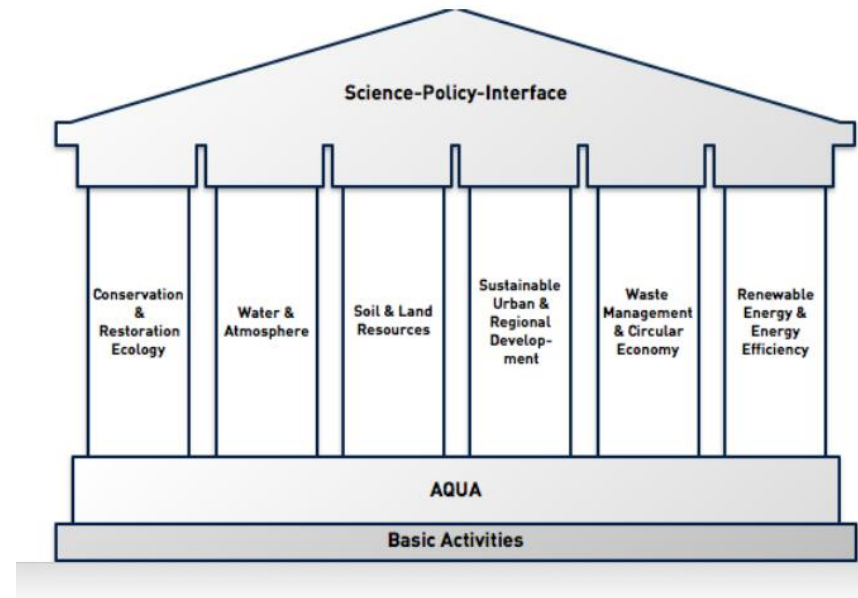
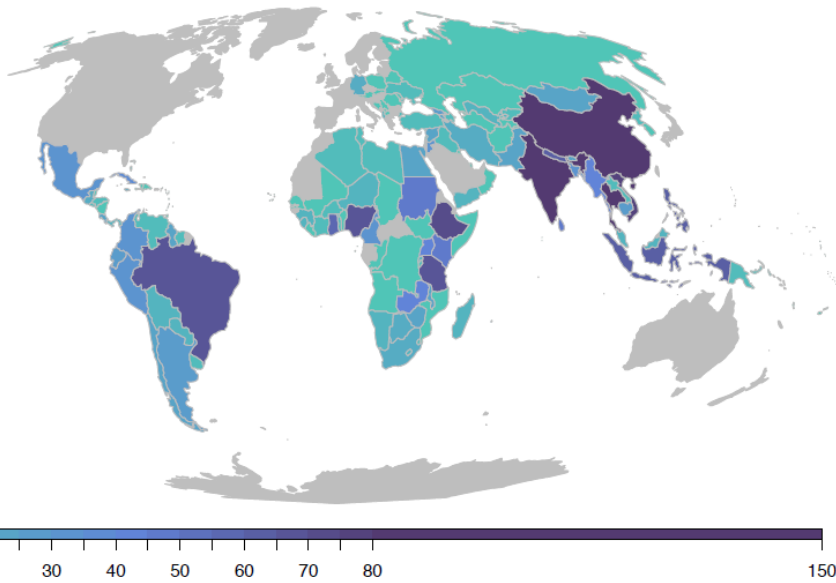
United Nations
Educational, Scientific and
Cultural Organization



United Nations
Environment Programme



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



- more than **2550** alumni from **145** countries to date
- **3 - 4** courses with a maximum of **84 participants each year** (normally)
- holistic and interdisciplinary approach mainly by facilitators from the **School of Civil and Environmental Engineering** and external experts




 113,000 € *annual support* 777,700 € 



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



... more than 2 years with CIPSEM

10.10. – 05.11.2019 – SC78 **Soil and Land Resources for Sustainable Development**

18.11. – 13.12.2019 – SC79 **Circular Economy and Waste Management**

09.01. – 10.07.2020 – EM43 **Environmental Management for Developing Countries**
stopped 16.03.2020 – continued as online course from 01.04.2020

14.09. – 09.10.2020 – SC80 **Integrated Water Resources Management**
online

CIPSEM *conceptual meetings and course revision*

13.11. – 09.12.2020 – SC81 **Sustainable Mobility**
online

13.01. – 15.07.2021 – EM44 **Environmental Management for Developing Countries**
online – 6 months, full-time, across 12 time zones

06.09. – 15.10.2021 – SC82 **Integrated Water Resources Management**
online

01.11. – 10.12.2021 – SC83 **Ecosystem Restoration towards a Green Recovery**
online

12.01. – 14.07.2022 – EM45 **Environmental Management for Developing Countries**
back to on-site format



<p>6. [AQIA] Change Management (Interdisciplinary Team)</p> <p>The goal is to make you aware of all the change that happens as every one and to make you open for projects as a chance to adopt to new situations and requirements.</p> <p>4 sections</p>	<p>7. [SoPI] Transitioning to a post-Covid politics:</p> <p>The rise of effective ecological, indigenous, organic and biocentric – Dr. Gatzert</p> <p>4 sections</p>	<p>8. [SoPI] Introduction to the Sustainable Development Goals</p> <p>The Sustainable Development Goals (SDGs) or Global Goals are a collection of 17 interrelated goals designed to be a blueprint to achieve a better and more sustainable future for all. The SDGs were set in 2015 by the United Nations General Assembly and are intended to be achieved by the year 2030. They are included in a UN Resolution called the 2030 Agenda or what is colloquially known as Agenda 2030.</p> <p>3 sections</p>	<p>9. [AQIA] Theory and Praxis Transfer - Dr. Gallo & Ma Hahn</p> <p>How to implement theoretical knowledge to real-world problems.</p> <p>4 sections</p>	<p>10. [SoPI] Nature-based Solutions & Ecosystem based...</p> <p>Nature-based Solutions (NbS) are defined as "actions to protect, sustainably manage, and restore nature or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits."</p> <p>4 sections</p>
<p>11. [SoPI] Participatory Climate Action in Local Landscapes (D. ...)</p> <p>Citizen science, the word is coined by Dr. ... from the Climate Coalition of Environmental, Social, Fair and Community Organizations. We must remember that the climate will not respond to targets, it will respond to carbon cuts. It is action that counts.</p> <p>Citizen science is citizen science and doing to prepare for and respond to the effects of climate change. In this module we will discuss how you can take action on either than why climate is so concerning. We will discuss together on how to take joint action to understand and address climate change impacts in your landscape. Specifically:</p> <ul style="list-style-type: none"> Understand how climate change is impacting you and your landscape and why the landscape is an interesting approach to deliver effective and sustainable climate solutions. Assess stakeholder dynamics in your landscape and understand the importance of effective multi-stakeholder collaboration for climate action. Apply participatory tools and methods to assess climate vulnerability and identify priorities and assess adaptation and mitigation measures to support landscape decision making. <p>12 sections</p>	<p>12. [AQIA] Visualization exercise (Dr. Lindner)</p> <p>Use an awareness on selected environmental issues.</p> <ul style="list-style-type: none"> Lack of clear visualization Lack of clear communication Lack of clear objectives Lack of clear roles and responsibilities Lack of clear communication Lack of clear communication <p>5 sections</p>	<p>13. [SURP] Sustainable Urban and Regional Development</p> <p>This module will allow you to examine and understand the governance processes that shape the social and built environment of cities to critically reflect and address the needs and opportunities of urban citizens, tackling the socio-ecological questions of present urbanization to know the historical roots and gain perspectives of present planning processes and to engage with imaginative and experimental methods of urban imagination and policy making.</p> <p>2 sections</p>	<p>14. [SURP] Planning projects (Prof. Müller & Dr. ...)</p> <p>Participants shall perform a project and present the results in the form of a poster (increased PPT-version for presentation) and an individual short policy brief. The project shall deal with major issues of urban planning. Participants work in groups of 3 persons.</p> <p>Each of the projects shall raise up the following 3 aspects: (1) May problems, (2) alternative solutions, (3) Implementation.</p> <p>3 sections</p>	<p>15. [AQIA] Project Management (Mrs. Ursula Mönning)</p> <p>In this module, we will take a journey into the world of Project Management. We will begin with the basics - such as identifying an individual short policy brief. We will then move on to the various aspects of the development sector such as project management. We will cover some of the fundamental knowledge, concepts, tools and factors that you need to understand how a project works and the best way to manage it.</p> <p>3 sections</p>
<p>16. [AQIA] Scientific writing (Dr. Gili)</p> <p>A formal selection of materials to support the writing process of scientific research and writing.</p> <p>8 sections</p>	<p>17. [SoPI] From concept to impact: Advancing the ...</p> <p>Resource Nexus Approach identifies the interlinkages and interdependencies of environmental resources and their interactions and flows across scales and sectors. The module addresses the topic of circularity by assessment for Resource Nexus Resource Nexus governance. Including key problems of governance and participatory approaches in policy design, as well as gender issues in the management of resources.</p> <p>5 sections</p>	<p>18. [WMCSE] Waste Management & Circular Economy (Prof. ...)</p> <p>Waste is a general cause of environmental problems and is becoming increasingly important in the global context of resources. However, it is not just with property waste can pose a risk to the environment and to human health. In this module we will discuss issues with regard to avoiding, collecting, recycling and disposing of waste in an ecologically, socially and economically responsible manner.</p> <p>13 sections</p>	<p>19. [AQIA] Remote Sensing (Dr. ... & Ms. ...)</p> <p>With the remote sensing (RS) unit you will learn about RS technology, how the missions, airborne RS and "camping" specific aspects valuable for environmental management. Discussions and hands-on exercises will be there to participants' needs and level of knowledge.</p> <p>4 sections</p>	<p>20. [CoRE] Restoring functions and services in disturbed ...</p> <p>We all depend on healthy ecosystems for food and energy, water and biodiversity. Their continued degradation contributes to climate change and enhances the risk of diverse ecological disasters. Interconnected sets of functions in ecosystems are the cornerstone for our society and a huge setback on progress made towards achieving the United Nations Sustainable Development Goals. It is time to re-think what has been lost.</p> <p>This session focuses on regional forests, but the majority of underlying concepts are universally applicable to other terrestrial ecosystems.</p> <p>8 sections</p>



- **blended learning** approach since 2014, which alleviated the switch to full online formats – still fulfilling all standards to issue a **similar value certificate** after course completion
- **„beacon“ project** at TUD and counseling for other training programmes of federal agencies

NEO LMS

A NEW WAY TO TEACH AND LEARN

Umwelt Bundesamt

BfN

Federal Agency for Nature Conservation

<https://apply-cipsem.de>

84th UNEP/UNESCO/BMUV International
Short Course on

**Urban Nature-Based Solutions
(SC84)**

*Cipsem Alumni are
welcome and encouraged
to apply for this short
course!*

CIPSEM



- **blended learning**

85th UNEP/UNESCO/BMUV
International
Short Course on
**Sustainable Cities
(SC85)**

CIPSEM

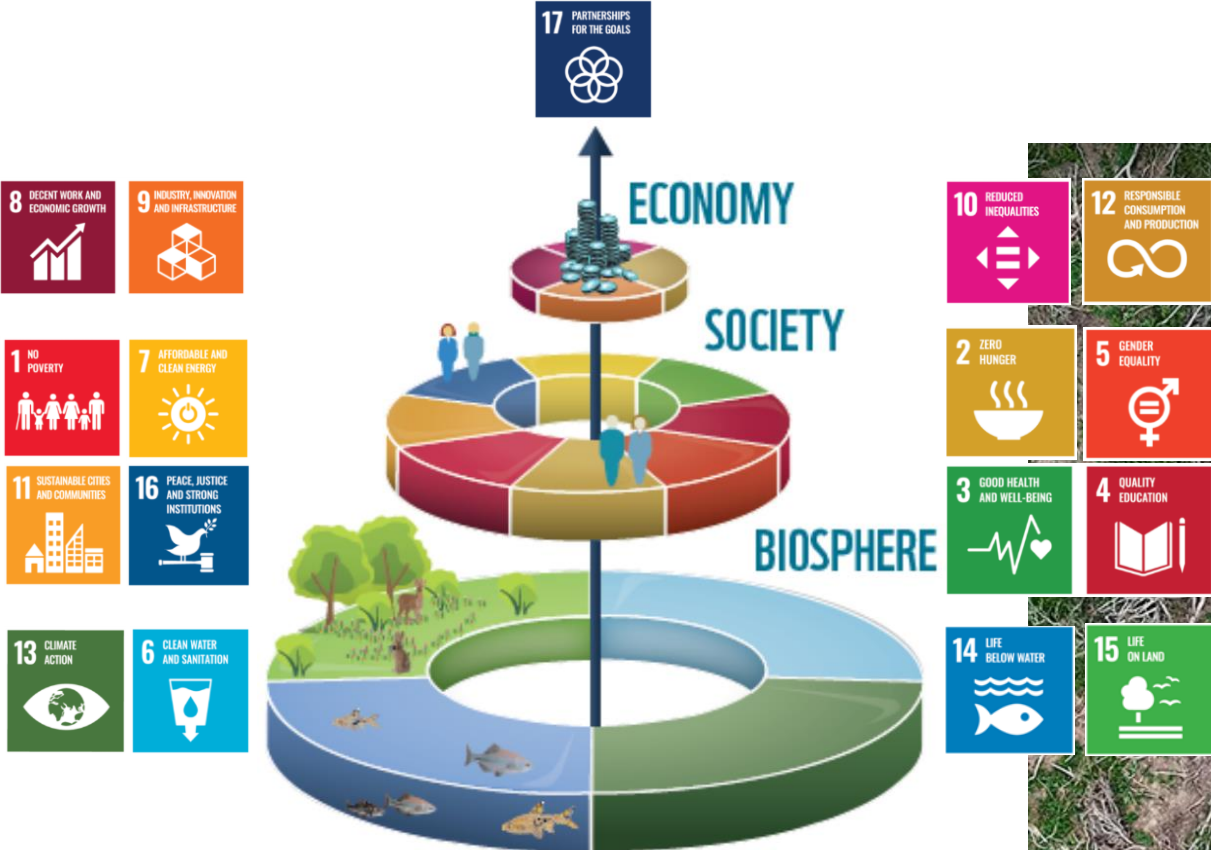
86th UNEP/UNESCO/BMUV
International
Short Course on



**Sustainability for food systems
and forest products: the role of
consumption and production
(SC86)**

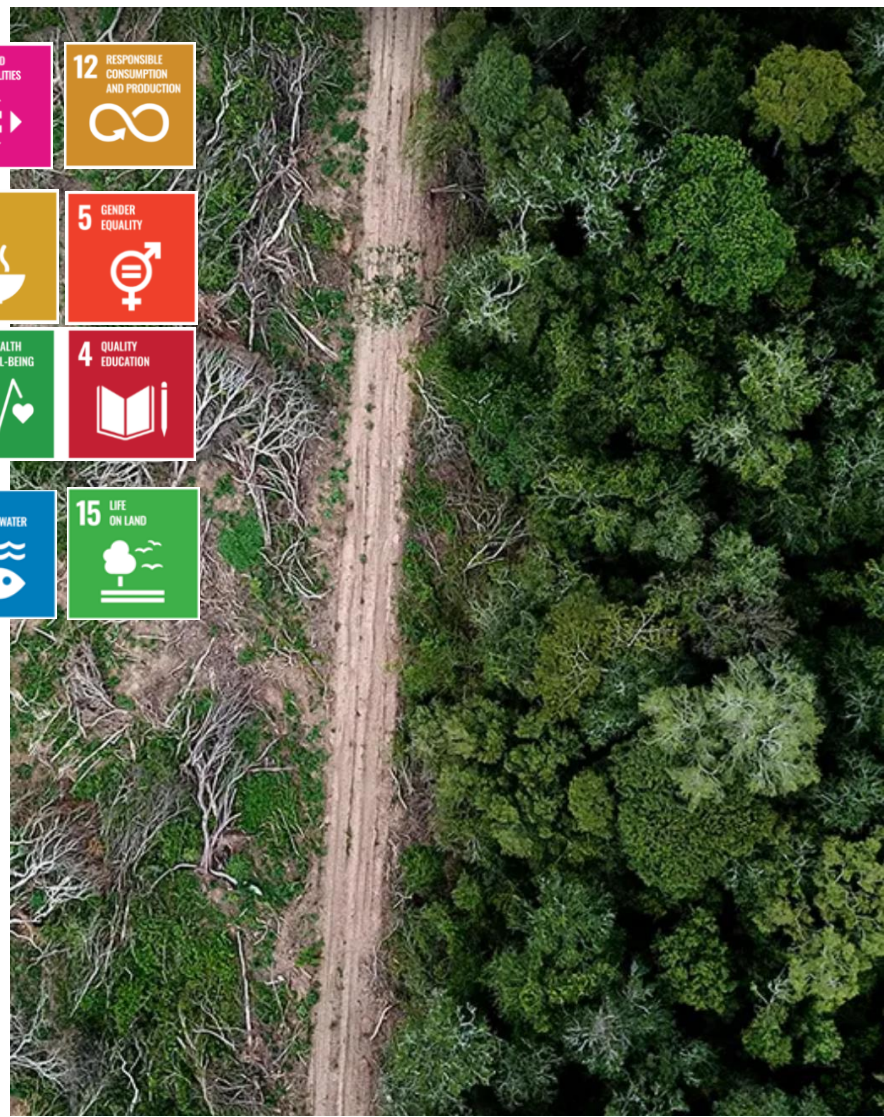
CIPSEM





© Stockholm Resilience Center

SUSTAINABLE DEVELOPMENT GOALS



SCHOOL OF CIVIL AND ENVIRONMENTAL ENGINEERING



sectors

key competencies

excellency & responsibility

values

anthroposphere & society

economy

biosphere

Business & Economics

Transport Sciences

Architecture

Civil Engineering

Environmental Sciences

autonomous and networked MOBILITY

taming WATER extremes

profile initiatives

interdisciplinary research and higher education for sustainable development

transformative action items¹

sustainable economies

urban development

environmental commons

¹ based on the entry points for transformation by the GSDR, 2019

... catch up during a COP meeting (SC77, 2019)



... still meet (online) after years (SC71, 2017)

Alumni

... representing an UN mandate (SC68, 2016)



... opening a new faculty in their home country (SC60, 2013)



between 2010 and 2021 a total of 33 alumni from institutions like:

- Ministry of Environment and Forests, Government of India
- Department of Environment, Government of West Bengal
- Environment Ministry, Government of Maharashtra State
- Karnataka State Pollution Control Board
- The Energy and Resources Institute
- Confederation of Indian Industry
- Haldia Institute of Technology
- Climate Parliament India
- WWF India



Alumni tracer study

Law 56%

Government 53%

Academic 29%

Consulting 26%

Advocacy 9%

Engineering 6%

NGO 3%

Building/
Construction 34%

Wildlife 26%

Education 26%

Policy 16%

Environmental
Science 13%

Energy 7%

Conservation 7%

Field of employment (multiple answers possible)

My cross cultural skills
have improved 75%

I have acquired more
up-to-date expertise
70%

More recognition
and respect
from colleagues
and partners 59%

More responsibility
in my job 50%

I have learned to
collaborate
better with
colleagues and
partners 49%

Higher
salary, 13%

Other 7%

Course impact on career (multiple answers possible)



... making a difference



Delegation Armenia
UNFCCC COP26, Glasgow

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 of
Environment
2007 @CIPSEM



Ms. Subha Niranjan, 2021 @CIPSEM (virtually)

Alumni Innovation Fellowship Project 2021/22
Rain Water Harvesting Project at Thirupalaya Government School,
Bengaluru, India

 <https://www.youtube.com/watch?v=fGqpMtWMual>



CIPSEM
www.tu-dresden.de/cipsem

Thank you for your attention!



43rd UNEP/UNESCO/BMU International Postgraduate Course on Environmental Management for Developing Countries

Opening ceremony, 09.01.2020



Dr. André Lindner
School of Civil and Environmental Engineering
andre.lindner@tu-dresden.de
+49 351 463-34899



Supported by:



based on a decision of
the German Bundestag

