



**Ministério  
da Educação**

Gabinete do Ensino  
Superior, Ciência e Tecnologia

## ANÚNCIO

### CURSOS INTEGRADOS DE GESTÃO AMBIENTAL NA UNIVERSIDADE TÉCNICA DE DRESDEN NA ALEMANHA – 2021/2022

O Serviço do Ensino Superior (SES), torna público que em apoio aos objetivos de Desenvolvimento Sustentável, a Universidade Técnica de Dresden, está oferecendo uma série de cursos integrados de Gestão Ambiental em 2021 (formato online) e 2022 (formato a ser definido).

Para conhecer todas as oportunidades de formação, os requisitos e o calendário definido para as inscrições consulta o folheto em anexo a este edital.

Serviço do Ensino Superior, Praia, 21 de abril de 2021.





## UNEP/UNESCO/BMU Environmental Management Training Programme for Developing Countries

*The call for our  
2021/2022 courses  
is now open!*

In support of the Sustainable Development Goals, Technische Universität Dresden is offering a range of integrated environmental management courses in 2021 (online-based format) and 2022 (format to be defined):

- ✓ 82th UNEP/UNESCO/BMU International Short Course on  
**Integrated Water Resources Management (SC82)**
  - Application period: **02 March to 04 May 2021**
  - Course period: **06 September to 15 October 2021 (online)**  
>> *more information on page 3*
  
- ✓ 83th UNEP/UNESCO/BMU International Short Course on  
**Ecosystem Restoration towards a Green Recovery (SC83)**
  - Application period: **02 March to 04 May 2021**
  - Course period: **01 November to 10 December 2021 (online)**  
>> *more information on page 6*
  
- ✓ 45th UNEP/UNESCO/BMU International Postgraduate Course on  
**Environmental Management for Developing Countries (EM45)**
  - Application period: **01 April to 12 May 2021**
  - Course period: **12 January to 14 July 2022 (format to be defined)**  
>> *more information on page 11*

You will find details on the following pages and on >> [www.tu-dresden.de/cipsem](http://www.tu-dresden.de/cipsem)



The Centre for International Postgraduate Studies of Environmental Management (CIPSEM) offers a range of integrated and multi-disciplinary training programs in support of the Sustainable Development Goals and the Paris Agreement, covering several concepts like sustainability, environmental management, and nature-based solutions. CIPSEM has designed these courses to prepare and improve professionals' skillsets for their environment-related planning, coordination and management tasks within ministries, agencies and local government units, NGOs, organisations, and institutions of their home countries. The systemic, interdisciplinary approach adopted by CIPSEM adequately considers the complexity of managing environmental resources in a multifaceted way, while focusing on local strategies and appropriate measures to protect the environment in a manner that is ecologically, socio-economically and culturally sound. Cross-disciplinary elements such as good scientific work, science-policy interfaces and joint social activities link the modular system and create the essential key competencies for modern, sustainable management of the rural and urban environment.

For this purpose, 21 experts from mostly 21 different countries are invited to attend each course. All courses target professionals from government agencies, science, economy or civil society who already bear responsibility for sustainable development in developing countries, including those with economies in transition. Our participants have several years of relevant professional experience and apply for the training with their local institutions' support. The course language is English.

The postgraduate courses are organised in partnership with UNEP and UNESCO to support the Agenda 2030 with funding and support from the German Ministry of the Environment, Nature Conservation and Nuclear Safety (BMU) and the German Environment Agency (UBA). Through this postgraduate programme, both facilitators and participants can improve their cross-cultural skills, work in a global context and learn how to work collaboratively with others from various backgrounds. Thus, CIPSEM offers an excellent opportunity for colleagues working at the national, regional, or local levels to expand networks, learn from each other and be more effective leaders.



## **82<sup>nd</sup> International Short Course on Integrated Water Resources Management (SC82) >> 06.09. - 15.10.2021**

### **Motivation <sup>1</sup>**

Already over two billion people are living in countries affected by high drought stress or water shortages. About 4 billion people experience severe water shortages during at least one month per year. The water demand will continue to increase by around 1% per year in the coming decades. Agriculture is already responsible for 69% of water abstraction globally. There is also a significant and growing need in industry and energy production. An increase in demand is brought about by population growth, socio-economic development and the associated expansion of urban water supply and sanitation systems. Concerning clean and permanently and easily accessible drinking water and sanitary facilities, there are considerable differences between and within continents, countries, municipalities and even city districts.

Climate change is likely to increase the mismatch between water supply and demand in the future. The frequency and intensity of flood and drought events are expected to change, with drastic effects on socio-economic conditions and the environment. Water quality continues to decrease due to the discharge of polluted wastewater and thus increases water scarcity, endangers human health and pollutes ecosystems, and hinders sustainable development of the economy. Affordable supply and disposal options are urgently sought. A large part of the wastewater is currently discharged untreated worldwide. Improved wastewater management in the sense of a more circular economy holds great opportunities that must be exploited due to the increasing pressure on water resources.

To leave no one behind, the 2030 Agenda for Sustainable Development pursues comprehensive goals to protect the planet from degradation while sustainably managing its resources. Sustainable Development Goal (SDG) 6 is intended to ensure "availability and sustainable management of water and sanitation for all". SDG targets 6.3, target 3.9 and target 12.4 especially focus on improved water quality and reducing pollution.

Achieving Goal 6 is central to the overall agenda. The United Nations (UN) considers clean water and sanitation facilities as "basic human rights". In this sense, we must acknowledge the interconnected dynamic between Goal 6 targets and every other Goal. On the one hand, progress on SDG 6 will, for instance, improve health and reduce the risk of water-borne diseases (SDG3). On the other hand, the achievement of other SDGs, for example, SDG 12 or SDG 15, is also essential to accomplish SDG 6. Thus, these interlinkages must be well understood and managed to achieve the social, economic and environmental dimensions of the 2030 Agenda. Lacking access to such resources and conditions hinders people having an equal chance to be healthy, educated and financially secure. Central steps for achieving SDG 6 are, therefore, to be taken in countries with low and lower-middle incomes, where



the share of water treatment and wastewater treatment is meagre. Thus, the need for cost-effective implementation solutions and safe water use options is exceptionally high in those countries.

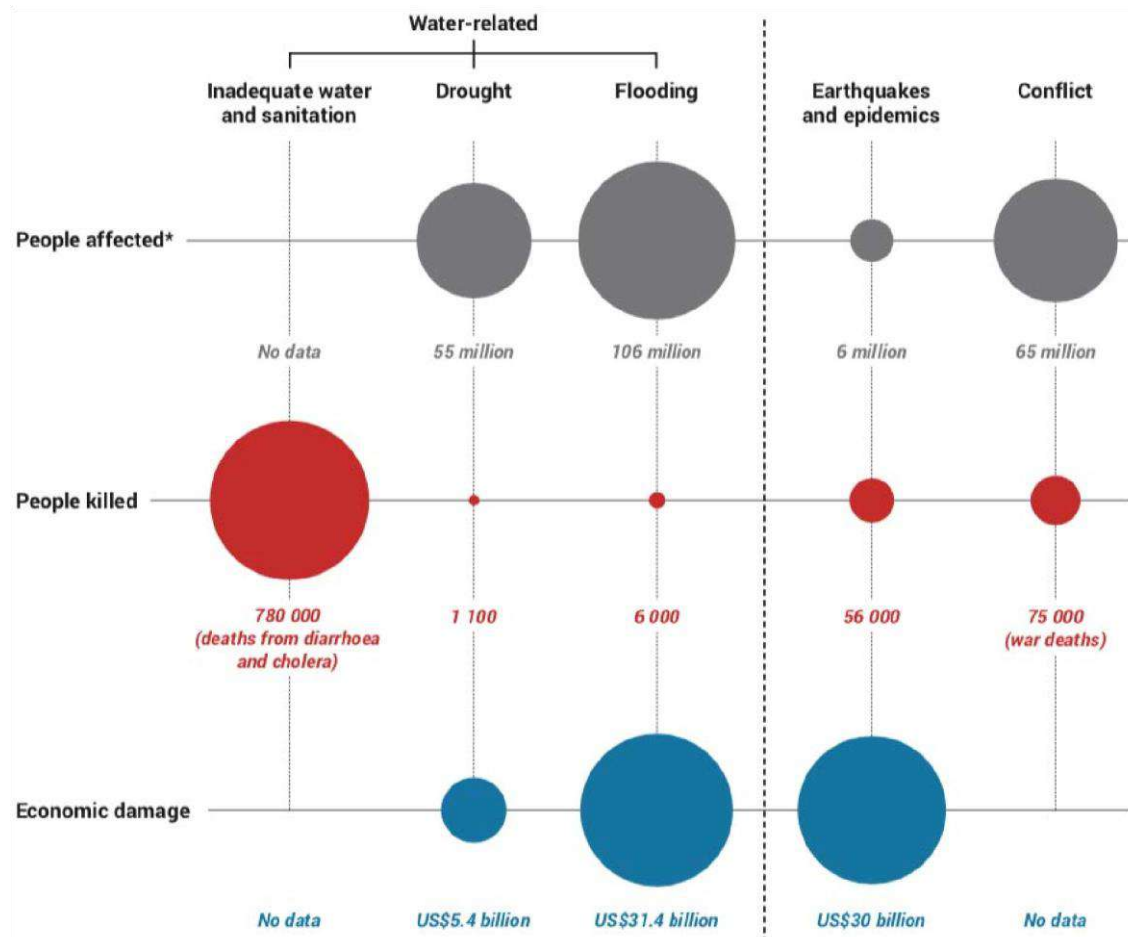


Fig. 1: Average annual impacts of inadequate drinking water supply and sanitation, water-related disasters, epidemics and earthquakes, and conflicts (Source: World Water Development Report 2019, Adapted from PBL Netherlands Environmental Assessment Agency (2018, p. 14). Licensed under Creative Commons Attribution 3.0 Unported (CC BY 3.0).)

## Course concept and objectives

In line with SDG 6 of the 2030 Agenda for Sustainable Development, the course contributes to building up capacities to protect, monitor and clean up available water resources in their local environment. The advanced training course addresses aspects of water quality and quantity with an integrated water resource management approach. Adequate legal provisions, robust political requirements and suitable technologies are considered.

Course emphases include a sound understanding of the hydrologic cycle, incorporating natural and anthropogenic processes, and integrated, inter-sectoral measures for sustainable water resource use that protects human health and the environment.

The online course programme includes lectures, seminars, practical exercises, and discussions on topics such as the water cycle, global and urban water (water infrastructure, water treatment, and wastewater treatment), integrated water resource management, climate change and governance frameworks, gender equality and stakeholder participation, waterborne diseases and monitoring systems. The training also considers the sustainable use of wastewater and managed aquifer recharge. After completing the short course, participants should be able to actively contribute to the protection and improvement of water resources in their home countries.



Fig. 3: Some impressions from the previous training on Integrated Water Resources Management.

Participants will also develop a post-training action plan (PTAP) for a challenge in their field of work, applying the course contents and considering inspiration received from facilitators and fellows during the course. This plan shall be implemented autonomously upon return and facilitate the transfer of the newly acquired knowledge into the day-to-day activities.

### Target groups

This course is aimed at management experts who prepare and implement political decisions and practical measures in ministries, authorities, local government and non-governmental institutions of developing countries (including newly industrialised economies) working on the protection of water resources.

We expect a high motivation to explore concepts for integrated water resource management and work towards implementing them. A first university degree (e.g. BA, BSc) in a related field (e.g. geology, geography, hydrology, meteorology, hydraulic engineering, planning, water management, environmental sciences) is essential. Adequate communication skills in the English language and the nomination by the delegating institution are mandatory.

### Application and participation

Qualified professionals are welcome to apply for this training between 2 March and 13 April 2021 on CIPSEM's online application portal. Our International Steering Committee selects the 31 participants of this course by mid-June 2021. Only selected participants will be informed via email. Successful participants are awarded a **Certificate of Proficiency in Integrated Water Resources Management**.

For more information, please visit [www.tu-dresden/cipsem](http://www.tu-dresden/cipsem)

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## **83<sup>rd</sup> International Short Course on Ecosystem Restoration towards a Green Recovery (SC83)**

**>> 01.11. – 10.12.2021**

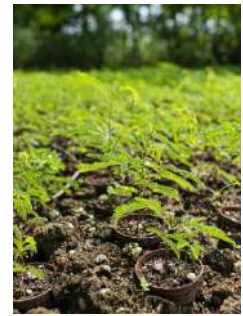
### **Motivation**

Only six out of the 20 Aichi Biodiversity Targets for 2020 have been partially achieved, as recently confirmed by Global Biodiversity Outlook 5. Forest and land degradation is estimated to cost the world more than US\$6.3 trillion a year—equivalent to 8.3 percent of global GDP in 2016—and jeopardizes the livelihoods of half a billion people who depend on forests and land resources. Restoring degraded forests generates an estimated \$7–30 in economic benefits for every dollar invested. Despite this favourable benefit-cost ratio, funding for landscape restoration falls short by about \$300 billion a year. International attention has now turned to the global biodiversity agenda for 2020 onwards, and the year 2021 marks the beginning of the new UN decade on ecosystem restoration. To successfully implement the Post-2020 Biodiversity Framework, several of priorities will have to change. Financing mechanisms will be needed for investment in biodiversity, in the same way, that mainstream finance drives the rest of the economy. Promising trends towards sustainable finance, impact investment and responsible consumption and production must be strengthened to bring them out of niche activities and make a significant impact. It will also be necessary to customize and redesign financial instruments to ensure that investment plans are evaluated for their potential risk to nature, and to create incentives for biodiversity-friendly investment into value chains.

Financial institutions show a growing commitment for the conservation and sustainable use of biodiversity, as evidenced by the “Finance for Biodiversity Pledge” led by 26 financial institutions at the Biodiversity Summit of the United Nations General Assembly in September 2020, and are starting to integrate biodiversity aspects into their products, as the loss of biodiversity and ecosystem services also poses significant risks for them. In addition to loss of reputation and legal risks associated with investments in companies that damage biodiversity, there are also credit and yield losses when economically important ecosystem services are no longer sufficiently available: More than three-quarters of the most important plants for food production are at least partially dependent on animal pollination (IPBES, 2016). The global cost of invasive insects is estimated to be at least USD 70 billion annually (Bradshaw et al., 2016).

The conditions for mainstreaming biodiversity into the finance sector have changed, as the COVID-19 crisis – and the worldwide call for transforming our societies and economies through green recovery and green reconstruction – changed the setting. There is a risk that the challenges faced by economies and societies, as they recover from COVID-19, will lead to reduced attention towards biodiversity by

the government and to reduced spending for environmental topics due to lower state revenues. However, there are also positive examples of governments that have committed to “build forward better”. With the “One Health” approach, COVID-19 has brought attention to the linkages between biodiversity, health and human wellbeing. It is crucial to mainstream biodiversity into the financial sector for a sustainable recovery and link COVID-19 response measures to financial incentives for a biodiversity-friendly future.



@Patrick Shepherd/CIFOR in: ROOTS OF PROSPERITY. The Economics and Finance of Restoring Land. World Resources Institute, Washington, USA

## Course concept and objectives

In line with SDG 15 (life on land) of the 2030 Agenda for Sustainable Development, the course contributes to building up capacities to monitor ecosystem degradation and biodiversity loss and its consequences for ecosystem resilience and human livelihoods. The advanced training course addresses aspects of biodiversity conservation, agri-food systems, adequate legal provisions, robust political requirements and suitable technologies for ecosystem restoration in a holistic anthropocentric view. Course emphases include a sound understanding of the role of biodiversity for ecosystem functioning and the provision of ecosystem services (such as pollination) and goods (One-Health approach), and will discuss case studies on different restoration approaches in different biomes and socio-ecological systems.

In this context, the course also will address SDG 12 (responsible consumption and production) which is central to achieving the goals of the 2030 Agenda, the Paris Agreement and the Convention on Biological Diversity. Consumption and production of all goods and services require the transformation of many natural resources, which in turn affects biodiversity. The production and extraction of agricultural goods, forest products, energy, and minerals alter landscapes and natural systems across the planet and support the livelihoods of billions of people. These land-use decisions are driven in large part by local and distant consumer behaviour and preferences. Therefore, efforts under SDG 12 have a central role to play in developing land restoration strategies that acknowledge the complexity and interconnectedness of resource availability and demand in order to effectively target the fundamental drivers of land-use change.

For the most effective implementation of the SDGs, a holistic and cross-sectoral approach to foster bio-based solutions is crucial. Accelerating work in this policy area is a key requirement for sustainable development. This part of the course will deal with sustainable consumption and production patterns along the entire value chain, with increasing resource efficiency and ultimately with decoupling economic growth from environmental degradation. Particular attention will be paid to the question



of how to reduce the economic reliance on inefficient and destructive measures, and how to achieve green development through the sustainable use of biodiversity's economic potential.

Part three of the course will deal with aligning stimulus or other economic packages to avoid post COVID-19 lock-in effects in non-sustainable structures. The course will give a better understanding about the impact of green recovery measures ("Build Back Better") on employment, economic growth, and social inequality and give an insight how to incorporate specific policies into tax and macro-financial packages.

Participants will also develop a post-training action plan (PTAP) for a challenge in their field of work, applying the course contents and considering inspiration received from facilitators and fellows during the course. This plan shall be implemented autonomously upon return and facilitate the transfer of the newly acquired knowledge into the day-to-day activities.

## Target groups

This course is aimed at management experts who prepare and implement political decisions and practical measures in ministries, authorities, local government and non-governmental institutions of developing countries (including newly industrialised economies) working on the sustainable use of natural resources and green recovery.

We expect a high motivation to explore concepts for ecosystem restoration and green recovery and work towards implementing them. A first university degree (e.g. BA, BSc) in a related field (e.g. geology, geography, environmental sciences, forestry, agriculture, environmental economy, political science, planning, and sustainable development) is essential. Adequate communication skills in the English language and the nomination by the delegating institution are mandatory.

## Application and participation

Qualified professionals are welcome to apply for this training between 2 March and 13 April 2021 on CIPSEM's online application portal. Our International Steering Committee selects the 32 participants of this course by mid-June 2021. Only selected participants will be informed via email. Successful participants are awarded a **Certificate of Proficiency in Ecosystem Restoration towards a Green Recovery**.

For more information, please visit [www.tu-dresden/cipsem](http://www.tu-dresden/cipsem)

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## 45<sup>th</sup> UNEP/UNESCO/BMU International Postgraduate Course on Environmental Management for Developing Countries (EM45) >> 12.01. – 14.07.2022 (format to be defined)

### Motivation

The Sustainable Development Goals (SDGs) were a remarkable advancement when adopted by the United Nations in 2015. For the first time, the world committed towards a broad spectrum of common goals ranging from climate action to sustainable economic growth, from life below water to sustainable cities, ending hunger and poverty to responsible consumption and production, and reduced inequalities to inclusive industrialisation. Agenda 2030 is a clear recognition that our biosphere's preservation depends on the sustainable stewardship of planet Earth.

Worldwide, implementation of both the Sustainable Development Goals and the Paris Climate Agreement is lagging far behind the ambitious targets. In support of both agreements, the UNEP/UNESCO/BMU 6-month course follows an integrated and interdisciplinary approach putting methods and instruments for making more progress at the centre, and covering sustainability, environmental management and nature-based solutions. The curriculum is organised in several modules comprising conservation and restoration ecology, water and atmosphere, soil and land resources, sustainable urban and regional development, waste management and circular economy, renewable energy and energy efficiency. An overarching science-policy interface frames all disciplines.

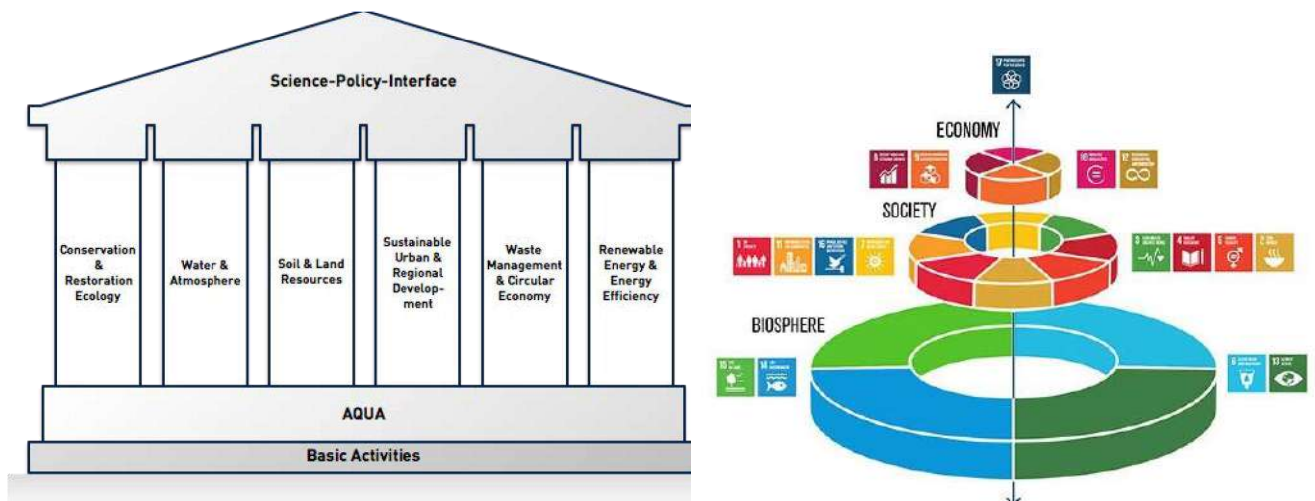


Fig. 1 (a) Modular structure of the course contents of the 45<sup>th</sup> UNEP/UNESCO/BMU International Postgraduate Course on Environmental Management for Developing Countries (EM45)

(AQUA = skills of fundamental importance)

(b) Biosphere foundation for global sustainability (Source: Rockström and Sukhdev 2016, Azote Images for Stockholm Resilience Centre)

Moreover, all participants will train fundamental, cross-sectoral relevance skills such as policy advice, presentation skills, project planning and management, which can be applied in the context of their local realities as well as communication across disciplines and cultures, participatory government practices, and understanding of geo-information.

The overall approach is to blend academic knowledge with local, traditional and professional expertise for finding practical and practicable solutions that can be implemented and eventually contribute to large-scale systemic changes and fundamental redirections in people-planet relationships that can have an impact at magnitudes that match the challenges of our time and are essential for accomplishing the SDGs.

The lectures are given by professors of Technische Universität Dresden and experts from various national and international institutions, including also the collaboration of CIPSEM alumni. Participants are required to carry out a research project with a scientific scope on a specific environment-related subject and present the results of this work in a symposium at the end of the course.

## Objectives

Participants acquire the ability to develop multi- and inter-disciplinary strategies for sustainable development and to act appropriately for environmental protection and management that considers ecological, socio-economic, political and cultural aspects.

## Target groups

This course is particularly designed for experts and leaders of public governance and administration at the national, regional and local level requiring an overall-competence in environmental matters. However, professionals from science, economy or civil society and who already bear responsibility for sustainable development in their countries are welcome to apply. To be eligible, candidates need to originate from and work in developing countries, including newly industrialised economies. Applicants also need to have several years of professional practice in the course's scope for a mutually beneficial exchange of experiences. A first university degree (e.g. BA, BSc.), adequate communication skills in the English language, and the delegating institution's nomination are mandatory.



Fig. 2: Impressions from past trainings on environmental management

## Application and participation

Qualified professionals are welcome to apply for this training between 1 April and 12 May 2021 on CIPSEM's online application portal. Our International Steering Committee selects the 21 participants of this course by August 2021. Only selected participants will be informed via email. Participants successfully completing this course will be awarded a **Postgraduate Diploma in Environmental Management**.

For more information, please visit [www.tu-dresden/cipsem](http://www.tu-dresden/cipsem)

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