CIPSEM

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

The call for our 2020/21 courses is open!

www.tu-dresden.de/cipsem

In support of the Sustainable Development Goals, Technische Universität Dresden is offering a range of Environmental Management courses in 2020 and 2021:

80th UNEP/UNESCO/BMU International Short Course on
Integrated Water Resources Management (SC80)
Application period: 18 February - 31 March 2020
Course period: 26 August - 22 September 2020

>> more information on page 3

81th UNEP/UNESCO/BMU International Short Course on
Sustainable Mobility (SC81)
Application period: 25 February - 08 April 2020
Course period: 13 November - 09 December 2020

>> more information on page 7

44th UNEP/UNESCO/BMU International Postgraduate Course on
Environmental Management for Developing Countries (EM44)
Application period: 10 March - 21 April 2020
Course period: 13 January - 15 July 2021

>> more information on page 11

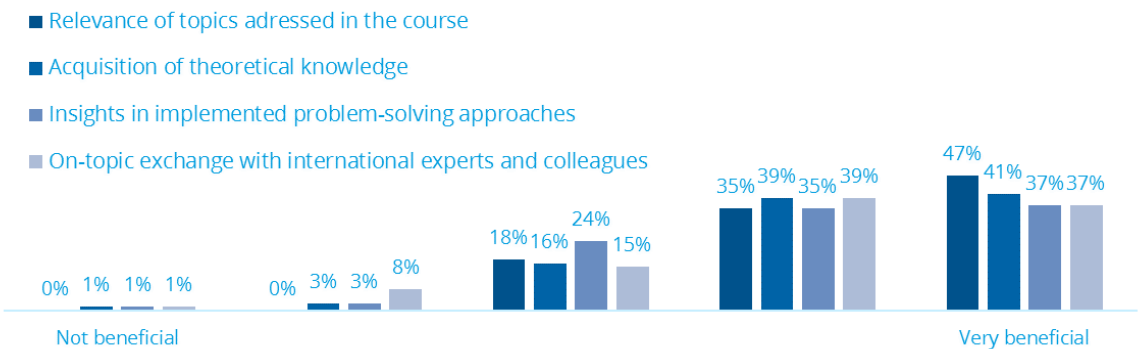
The Centre for International Postgraduate Studies of Environmental Management (CIPSEM) has designed these courses to prepare the participants for their tasks of environment-related planning, coordination and management within ministries, agencies and local governments as well as NGOs of their home countries. Our course participants have several years of course-relevant professional experience and apply with the recommendation of their institutions in a developing country (including emerging economies). The course language is English.

The postgraduate trainings are organised in partnership with UNEP and UNESCO to support the Agenda 2030 with funding from the German Ministry of the Environment, Nature Conservation and Nuclear Safety.

All courses target professionals from government agencies and NGOs of developing countries, including those with economies in transition.

The benefit goes way beyond the knowledge and skills conveyed by experts from many relevant institutions and through numerous site visits. The trainings are an excellent opportunity for colleagues working at the national, regional or local level for expanding networks and learning from each other. Many alumni tell us the course experience has been transformative for them.

You will find details on the following pages and on >> **www.tu-dresden.de/cipsem**



How UNEP/UNESCO/BMU alumni answer the question "Retrospectively, how do you evaluate the content of the CIPSEM course as beneficial for your career?" five and then years after participation in a CIPSEM course.

80th International Short Course on Integrated Water Resources Management (SC80)

>> 26.08. - 22.09. 2020

Motivation

Already over two billion people are living in countries affected by high drought stress or water shortages[1]. About 4 billion people experience severe water shortages during at least one month per year. The demand for water will continue to increase by around 1% per year in the coming decades. Agriculture is already responsible for 69 per cent of water abstraction globally. There is also a big 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 thereby 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 going beyond water supply and sanitation. Sustainability Goal 6 is intended to ensure "availability and sustainable management of water and sanitation for all"**.** Sub-goal 6.3 includes: "By 2030, improve water quality by reducing pollution, eliminating dumping and minimising release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally."

Achieving Goal 6 is central to the overall agenda, as there is a dynamic, two-way interdependence between Goal 6 targets and every other Goal. These interlinkages must

[1] The the background information mentioned in this course description is based on the United Nations World Water Development Report 2019, 'Leaving no one behind'

DRESDEN concept Exzellenz aus Wissenschaft und Kultur

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be well understood and managed to achieve the social, economic and environmental dimensions of the 2030 Agenda.

The achievement of SDG 6 is decided in countries with low and lower-middle incomes, where the share of water treatment and wastewater treatment is extremely low. Therefore, the need for cost-effective implementation solutions and options for safe water use is particularly high in those countries.

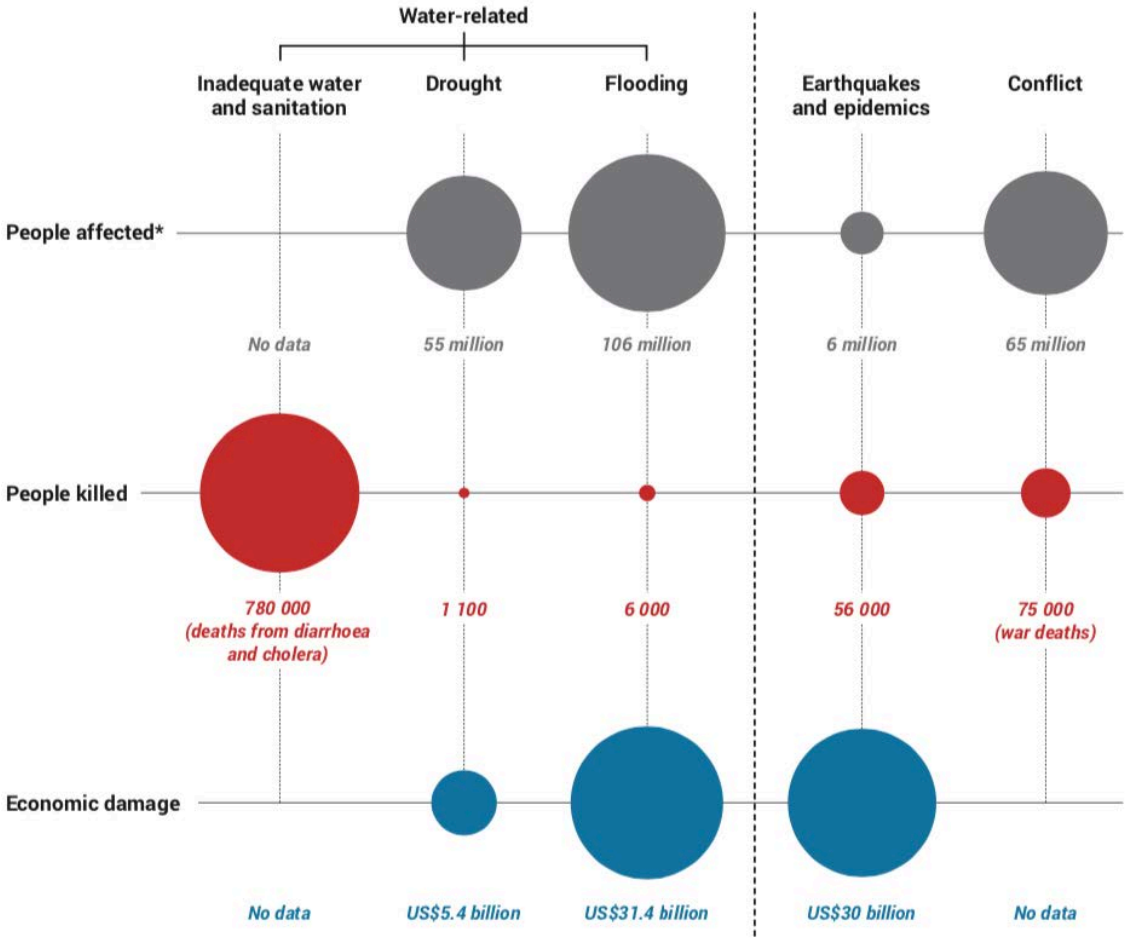

Fig. 1: Average annual impacts of inadequate drinking water supply and sanitation, water-related disasters, epidemics and earthquakes, and conflicts (Source: World Water Development Report 2019, Adapted from PBL Netherlands Environmental Assessment Agency (2018, p. 14). Licensed under Creative Commons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

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.

Basis of the course is a well-founded understanding of the hydrological cycle. This includes natural and anthropogenic processes. Moreover, the course focuses on integrated, intersectoral measures for the sustainable use of water resources. The course program includes lectures, seminars, specialist visits and excursions on topics such as the water cycle, urban water (water infrastructure, water treatment, wastewater treatment), integrated water resource management and climate change, 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 an action plan for a challenge in their field of work, applying the course contents and taking into consideration inspiration received from facilitators and fellows during the course. This plan shall be implemented autonomously upon return and thus facilitate the transfer of the newly acquired knowledge into the day-to-day activities.

Successful participants are awarded a Certificate of Proficiency in Integrated Water Resources Management.

Target groups

This course is aimed at senior management experts who prepare and implement political decisions as well as decision-makers 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 - as well as working 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) is essential. Adequate communication skills in English language and the nomination by the delegating institution are mandatory.

Application and participation

Qualified professionals are welcome to apply for this training between 18 February and 31 March 2020 on CIPSEM's online application portal.

Our International Steering Committee selects the 21 participants of this course by July 2020. Participants stay in our comfortable private studio apartments and receive a stipend to cover basic living expenses. Flights, health insurance etc. will be provided. Our course office provides further manifold assistance. Participants successfully completing this course will be awarded a Certificate of Proficiency in Integrated Water Resources Management.

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81st International Short Course on Sustainable Mobility (SC81) | 13.11. - 09.12. 2020

Motivation

Figures and definitions come from the report "Mobilizing sustainable transport for development - Analysis and Policy Recommendation from the United Nations High-Level Advisory Group on Sustainable Transport" (2016)

"Transport is not an end in itself but rather a means allowing people to access what they need: jobs, markets and goods, social interaction, education and a full range of other services contributing to healthy and fulfilled lives."

Transport drives development, links people, connects local communities with the world, creates markets and facilitates trade. In return, sustainable transport promotes a more sustainable development. Personal and economic needs of the present can thus be met without compromising the ability of future generations to meet their own needs.

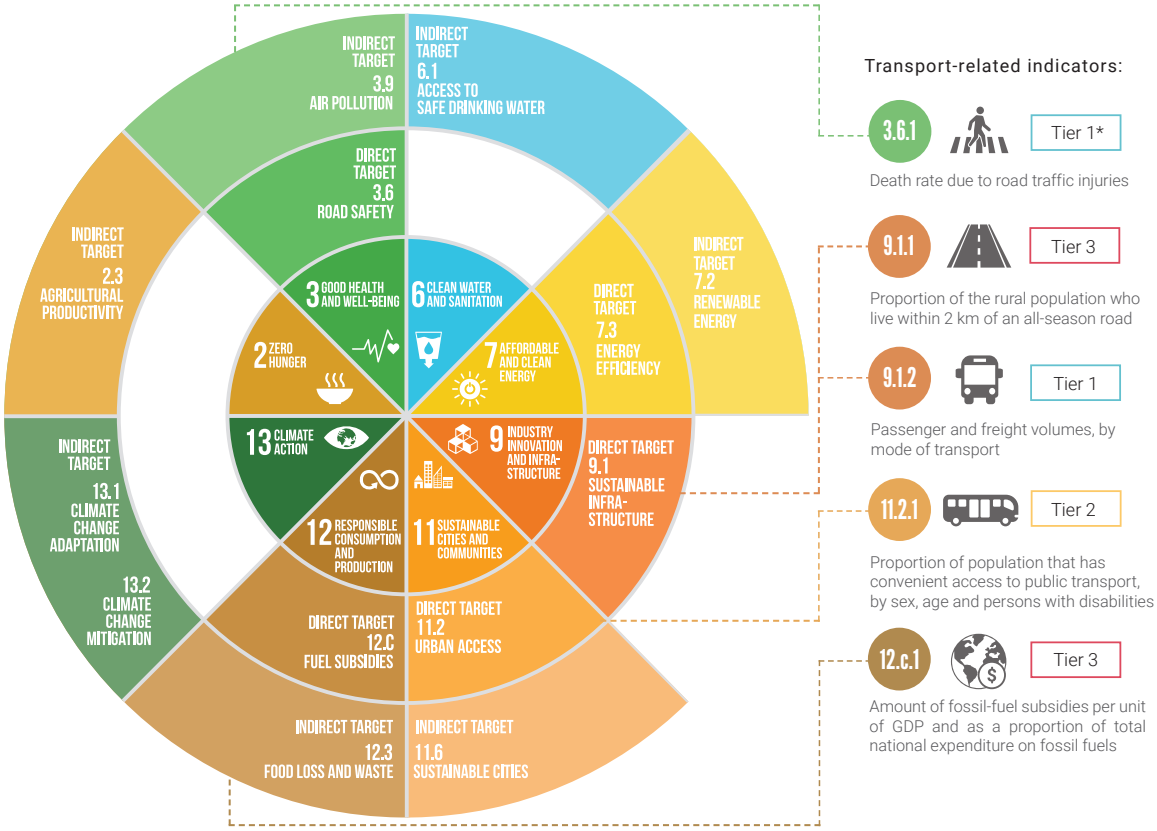

Fig. 1: Sustainable, low-carbon transport is vital to achieving more than half of the global sustainability goals (SLoCaT, Partnership on Low Carbon Transport, 2019)

For these reasons, sustainable mobility is key to the 2030 Agenda. It states that "sustainable transport systems, along with universal access to affordable, reliable, sustainable and modern energy services, quality and resilient infrastructure, and other policies that increase productive capacities, would build strong economic foundations for all countries". The agreement contains five objectives that are directly related to the transport sector and seven other targets that are indirectly related to the transport sector.

There is an urgent need for action to deal with the huge social, environmental and economic costs associated with "business as usual": every year 1.24 million people die in traffic accidents and another 3.5 million people die prematurely due to outdoor pollution, including from transport sources; 23% of energy-related greenhouse gas emissions come from transport. Road congestion is an enormous burden on the economy and currently accounts for 0.7% of GDP in the USA, 2% of GDP in Europe, 2-5% of GDP in Asia and in some cities in emerging countries even 10% of GDP , including Beijing, São Paulo and Lima.

Sustainable mobility also offers enormous opportunities: improved road safety and less air pollution can save hundreds of thousands of lives each year, and carbon emissions can be reduced by 7 gigatons. The transformation to sustainable mobility requires a redirection - and not a significant increase - in infrastructure spending. It can be realised through an annual investment of around $ 2 trillion, which is equivalent to spending $ 1.4 to $ 2.1 trillion in a business-as-usual scenario. Taking into the account full costs of transportation, including fuel, operating costs, losses due to congestion and vehicle costs, sustainable mobility can save $ 70 trillion by 2050.

Course concept and objectives

The course concept follows the 'Avoid Shift Improve' approach, which is recommended by the high-ranking UN advisory group on sustainable transport as a useful framework for assessing traffic measures and for measures to support sustainable passenger and freight transport. Applying these principles will promote a combination of multimodal, collective and shared mobility solutions and sustainable transport systems. The concept of enabling is an important addition to the framework. Training participants will be empowered to pursue an integrated, holistic approach to political decisions and investment decisions. The benefits of engaging a wide range of stakeholders and funding sources are also highlighted.

Fig. 2: Participants analyse urban traffic challenges during an excursion by bicycle during a previous course.

Participants will learn from each other's experiences, present the respective national transport policies and develop sustainable processes and measures for their countries. Professors and scientists from the Technical University of Dresden and other renowned research institutions, as well as experts from industry and the German Environment Agency, will elaborate on approaches for holistic traffic planning and concepts for sustainable transport development.

Topics include an analysis of the current situation, assessment procedures and manuals, alternative fuels and engines, transport planning, regional planning, pollution and noise, fuel consumption and climate change, public transport, walking, cycling as well as methods for measuring access and the needs of the population in terms of mobility.

This interdisciplinary short course provides a solid background knowledge combined with workshops, participatory teaching methods and on-site inspections.

Participants are enabled to acquire professional skills to support the environmental policy of their respective countries with regard to transport aspects and to initiate their own projects on all administrative levels.

Fig. 3: Some impressions from previous trainings dealing with sustainable mobility.

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

Participants successfully completing this course will be awarded a Certificate of Proficiency in Sustainable Mobility.

Target groups

This course is aimed primarily at senior management experts with a technical background in traffic and urban planning. The training is suited for experts on a managerial level and decision-makers with tasks in environmental-related planning, coordination and management in ministries, authorities, local government and non-governmental institutions of developing countries, including newly industrialised

economies. We expect a high motivation to explore concepts for sustainable mobility - as well as working towards implementing them. A first university degree (BA, BSc, e.g.), adequate communication skills in English language and the nomination by the delegating institution are mandatory.

Application and participation

Qualified professionals are welcome to apply for this training between 25 February and 08 April 2020 on CIPSEM's online application portal.

Our International Steering Committee selects the 21 participants of this course by August 2020. Participants stay in our comfortable private studio apartments and receive a stipend to cover basic living expenses. Flights, health insurance etc. will be provided. Our course office provides further manifold assistance. Participants successfully completing this course will be awarded a Certificate of Proficiency in Sustainable Mobility.

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44th UNEP/UNESCO/BMU International Postgraduate Course on Environmental Management for Developing Countries (EM44) | 13.01. - 15.07. 2021

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, from ending hunger and poverty to responsible consumption and production, and from reduced inequalities to inclusive industrialisation. The Agenda 2030 is a clear recognition that the preservation of our biosphere depends on the sustainable stewardship of planet Earth.

In support of the SDGs, the UNEP/UNESCO/BMU 6-month course follows an integrated and interdisciplinary approach covering the field of environmental management. The curriculum is organised in modules comprising issues of 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.

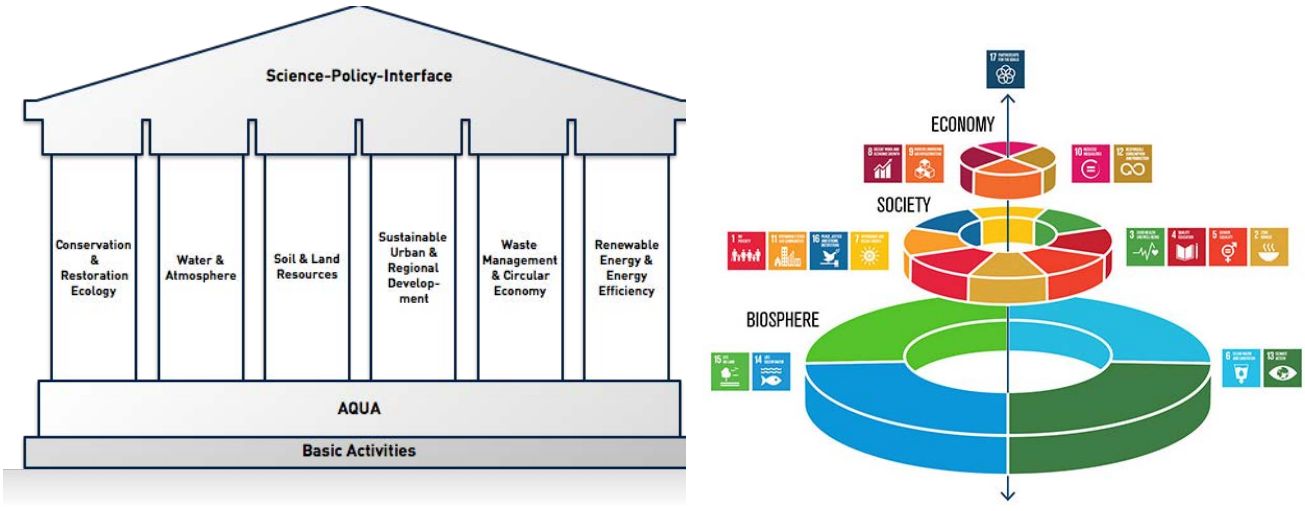

Fig. 1 (a) Modular structure of the course contents of the 44th UNEP/UNESCO/BMU International Postgraduate Course on Environmental Management for Developing Countries (EM44) (AQUA = skills of fundamental importance)
(b) Biosphere foundation for global sustainability (Source: Rockström and Sukhdev 2016, Azote Images for Stockholm Resilience Centre)

Moreover, all participants will train skills of fundamental, cross-sectoral relevance such as policy advice and project management in the context of developing countries, communication across disciplines and participatory government practices, as well as understanding geo-information and basic German language skills.

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 as well as experts from various national and international institutions. A multitude of excursions are also part of the course to illustrate environmental problems and exemplify successfully integrated environmental management practices. Participants are required to carry out a profound research project on a specific environment-related subject and present the results of this work in a symposium at the end of the course.

Fig. 2: Dealing with sustainable mobility, exchanging on nexus-thinking in sustainable development, simulating international negotiations and site visits during past postgraduate courses in environmental management

Objectives

Participants acquire the ability to develop interdisciplinary strategies for sustainable development and to take appropriate measures for environmental protection that takes ecological, socio-economic and cultural aspects into account.

Target groups

This course is particularly designed for decision-makers of public governance and administration both at the national and local level requiring an overall-competence in environmental matters. To be eligible, candidates need to originate from and work in developing countries, including newly industrialised economies. Applicants also need to have at least two years of professional practice in the field of the course, for a mutually beneficial exchange of experiences. A first university degree (BA, BSc, e.g.), adequate communication skills in English language and the nomination by the delegating institution are mandatory, too.

Fig. 3: Impressions from past trainings on environmental management

Application and participation

Qualified professionals are welcome to apply for this training between 10 March and 21 April 2020 on CIPSEM's online application portal.

Our International Steering Committee selects the 21 participants of this course by September 2020. Participants stay in our comfortable private studio apartments and receive a stipend to cover basic living expenses. Flights, health insurance etc. will be provided. Our course office provides further manifold assistance. Participants successfully completing this course will be awarded a Postgraduate Diploma in Environmental Management.

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