

# RESERVOIR SEDIMENT MANAGEMENT FOR SUSTAINABLE HYDROPOWER IN AFRICA

8 – 17 NOVEMBER 2023  
ZAMBIA

Women are  
encouraged  
to apply.

Application deadline – 20 August 2023

Course fee – €EUROS 1000

ICH Members' Course Fee: – €EUROS 900,-

\*Fee includes course materials, meals, and accommodation



Water reservoirs support both water and energy security, providing essential services required for development in Africa. Africa's hydrological shifts due to climate change coupled with topography and pattern of land use are some of the factors that are leading to increased variability in erosion and sediment transport and rates of reservoir siltation.

The build-up of sediments in reservoirs has various negative impacts on the sustainability of hydropower projects, including reduced storage capacity, decreased water quality, increased maintenance costs, and decreased power generation. Moreover, sediments compromise the safety of the structures, damage equipment and result in significant financial consequences.



Sediment management is therefore important and relevant for the sustainable use of water resources and addresses the problems of food, water, and energy insecurity. It has become even more critical to ensure the continued and stable supply of energy and water to vulnerable populations and essential service sectors such as hospitals.

To implement sustainable sediment management, a capacity both in terms of resources and trained manpower is essential and a priority requirement for the region.

### **COURSE OBJECTIVE**

This ICH training will contribute to the ongoing efforts of mitigating the sedimentation problems of reservoirs for more sustainable uses by exploring and disseminating practical methods and strategies that are viable to apply in handling sediments in a

more economically, technically, and environmentally feasible way. This training will also share experiences for sediment handling at other locations, making it possible to learn from good practices and results achieved at other projects.

Participants will learn practical cost-effective, innovative, technical solutions to reservoir sedimentation for optimum benefits of the water resources in Africa.

The training combines theoretical knowledge with practical hands-on exercises, field visits to reservoirs facing sedimentation challenges, and interactive sessions to enhance learning and application of the concepts.

**Empowering Africa's hydropower**

## MAIN TOPICS

Introduction to reservoir sedimentation and management

Sediment monitoring and data analysis

Sediment transport and modelling

Sedimentation prediction and planning - data collection and forecasting techniques

Sedimentation control and mitigation measures - removal techniques and equipment

Integration and planning for sustainable sediment management

Sediment management case studies and best practices:

Impact of climate change on reservoir sedimentation - *a regional perspective*

Environmental considerations and ecological impacts

Field visits and practical exercises

River flow measurements - establishing a sediment rating curve on a river

Socio-economic and environmental impacts of sediment management strategies

Stakeholder engagement and community relations

Cost analysis and optimization techniques for sediment management

Risk assessment and safety measures

## TARGET GROUP

The course is aimed at reservoir operators, utility managers, hydropower engineers and technicians who are directly involved in the planning, design, operation, and maintenance of hydropower projects.

This includes professionals working in government agencies responsible for hydro-power development, power utilities, consulting specializing in hydropower, and institutions focused on water resources planning and energy.

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## GENERAL

All lecturers and resource persons are well-known specialists within their field, and they have extensive international and regional experience.

Attending the courses is an opportunity to discuss and learn about current issues related to hydropower and other renewables together with professionals from the continent and abroad.

Participants are encouraged to bring along information that can be shared about pending energy and power market issues of your interest.

## ADMISSION REQUIREMENTS

- A minimum of about 5 years of working experience is required.
- Applicants should hold an applicable degree or possess relevant background knowledge.
- Proficiency in English is compulsory for this course.
- Applicants **MUST** diligently complete the application form before submission.
- Applicants should have knowledge of the fundamentals of sediment management.
- The application form can be accessed at the ICH website – [www.ich.no](http://www.ich.no)
- Please ensure your completed application is received no later than the given deadline
- Notice of admission will be given shortly after the application closing date.

**ICH reserves the right to accept or reject any applicant based on their qualifications and experience.**



## SPECIFICS FOR THE COURSE

Information on travel, a detailed course program and other relevant information will be sent to all participants in due course.

Participants are expected to arrive at the venue of the course the day prior to the course start and leave no earlier than the day after the end of the course.

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## COURSE FEE

The course fee includes lectures, materials, accommodation, meals, and a social program if applicable. International travel expenses are not included.

There is a reduced fee for ICH members. A limited number of sponsored seats are available for participants from countries prioritized by NORAD (Norwegian Agency for Development Cooperation).

Those who would like a guaranteed seat on the course should secure their own funding.

## MORE INFORMATION

Information on other courses can also be found on our website; [www.ich.no](http://www.ich.no) or by contacting [carole@ich.no](mailto:carole@ich.no)



International Centre for Hydropower - ICH



International Centre for Hydropower

## CONTACT

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