African Water and Sanitation Association

Association Africaine de l'Eau et de l'Assainissement

AfWASA / AAEA

AWASA
AFRICAN WATER and SANITATION ACADEMY

TRAINING CATALOG

2024-2025

Words of the Executive Director

Dear participants
ear members
Dear colleagues and partners

At the beginning of 2024, as I extend my warmest wishes for health and success in an Africa where people have access to sustainable water and sanitation services, and as I present this new 2024 training catalog, allow me to remind you the mandate of African Water and Sanitation Association which is to build the capacity of actors in water and sanitation sector in Africa so that they are able to deliver effective services to people.

Each year, after evaluating the performance of our active members on one hand and after collecting information on the challenges faced in the sector on the other hand, we design an annual training catalog, which is presented exclusively to you. Of course, specific information can be provided to you, depending on your needs and demand.

For this year 2024, our catalog offers a range of 14 training sessions spread throughout the year, from April.

I wish you all personal and professional enrichment during these sessions.

Thank you.

Olivier Gosso
AfWASA Executive Director

Our vision

Be the leader in capacity building for water and sanitation sector in Africa.

Our mission

Through all its activities, AfWASA want to ensure coordinated action to acquire and improve knowledge of drinking water production and distribution and sanitation management from technical, legal, administrative, and economic points of view. It aims at encouraging the exchange of information on research, methods, processes and procedures for the production and distribution of water and sanitation and create and promote all forms of cooperation and exchange in the field of professional training in water and sanitation.

The Association currently has nearly 150 members in 45 African countries and beyond.

Our values

1. **Professionalism**
   We listen to our members and provide solutions tailored to their needs through quality service.
2. **Innovation**
   We are committed to research and to finding innovative solutions to our members' concerns.
3. **Excellence**
   We give the best of ourselves to substantially support our members in providing quality water and sanitation services.
4. **Transparency**
   We share our information as widely as possible and put particular emphasis on accountability to our members.
5. **Commitment**
   We feel a deep sense of belonging and pride in fulfilling the mission and vision of AfWASA in a way that exceeds our personal and collective potential.

AfWASA Training Methodology: A Holistic Approach to Professional Development

Introduction

The African Water and Sanitation Association (AfWASA) has always had a strong commitment for building the capacity of its members and partners. This year is no exception, with the introduction of an ambitious training programme designed to meet the specific challenges of the sector. This catalogue has been designed in line with the methodology adopted by the AfWASA to develop and deliver its training programme, basing on valuable feedback from its members.

Identification of Training Needs

The AfWASA's methodology begins with a crucial step: the identification of training needs. This is conducted through a detailed survey distributed to members and partners. The aim is to collect precise data on skills to be improved, gaps in knowledge, and new technologies or methods to be integrated into current practices.

Survey design

The survey is carefully designed to ensure that it covers a wide range of topics while being sufficiently precise to collect useful information. Questions are formulated to assess both technical and managerial skills, reflecting the various roles and responsibilities in water and wastewater industry.

Data analysis

The data collected is then subjected to rigorous analysis. AfWASA uses statistical methods to identify trends, existing strengths and areas requiring attention. This analysis helps to prioritize training topics for the coming year.

Development of Training Content

Once the needs have been identified, the next step is to develop relevant and informative training content. This phase is carried out in collaboration with sector experts, educators, and experienced professionals.

Choice of trainers

The choice of trainers is a critical aspect. AfWASA selects experts recognized for their expertise and their ability to pass on knowledge effectively. Trainers often come from renowned universities, professional practice, or specialist consultancies.

Creation of training modules

Training modules are designed to be interactive and engage participants. Each module combines theoretical presentations with case studies, group discussions and practical sessions. The aim is to ensure that theory is always linked to practical applications relevant to participants.

Delivery of Training Programmes

The delivery of training sessions is planned to consider the availability of participants and trainers. Session formats vary, including face-to-face workshops, online seminars, and small group interactive sessions.

Training logistics

Impeccable logistics are essential to the success of training Programmes. Venues are chosen not only for their accessibility, but also for their ability to provide the equipment and technology necessary for an optimal learning experience.

Evaluation and feedback

Each training session is followed by an evaluation to measure the effectiveness of the training and gather feedback from participants. This information is used to adjust and improve future sessions.

Impact and Post-Training Follow-up

The true test of a training programme's effectiveness lies in its impact in the field. AfWASA is committed to monitor the progress of participants, using key performance indicators to assess the application of the knowledge acquired in their respective work environments.

Conclusion

AfWASA training methodology is designed to be as inclusive and comprehensive as possible, aiming to close the skills gaps in the sector while introducing innovative practices. Through an evidence-based approach and a commitment to educational excellence, AfWASA continues to play a key role in the professional development of its members and partners in African water and sanitation sector.

The experts

Dr Amadou gueye,
Wash IPAR Coordinator

Mansour Fall
Liaison Officer FSMA,
International consultant

Yoga Félicien
IRCA-certified International
Auditor/Audit Manager

Mme Sanfo Eléonore
Quality Management Specialist,
ICA-certified QMS auditor

Our Training

Modules

Training01

Domain **Drinking water and sanitation**

Activities Improving acces to drinking water

Module

Fluoride Removal from Fresh Water at Community and Household Levels - Innovative filter-technology for clean, safe and affordable drinking water

Nakuru I Kenya **24 - 26 April 2024** **18 h** (3 days)

General Objectives

Building the capacities of participants to master the removal of fluoride from water

Operational Objectives

At the end of this training

- Participants will gain in-depth knowledge of arsenic contamination in water sources.
- Participants will be familiar with various arsenic detection and removal technologies.
- Participants will understand the design and implementation considerations for arsenic removal systems.
- Participants will be equipped to address challenges and make informed decisions in arsenic removal projects.

Contents

Content below will be developped to reach the outcomes.

- Understanding Arsenic Contamination
  - Overview of arsenic in water sources
  - Health effects and regulatory standards
  - Global and regional prevalence
  - Natural and anthropogenic sources
  - Different forms of arsenic in water
  - Case studies of arsenic-contaminated areas
- Water Quality Assessment and Arsenic Detection
  - Sampling techniques and Laboratory analysis methods
  - Overview of arsenic detection methods
  - Field-testing kits and their applications
- Arsenic Removal Technologies
  - Coagulation, floculation, precipitation and sedimentation
  - Filtration technique
  - Ion exchange and membrane filtration
  - Iron-based adsorbents
- Case Studies, Design, and Implementation
  - Showcase of arsenic removal projects
  - Lessons learned from successful implementations.
  - Operation and maintenance practices
  - Challenges faced and overcome

Site

Onsite visit of fluoride removal station

Target audience

Water sector professionals,
Engineers
environmental scientists
Government officials
Water quality managers.
NGO
Project managers

25 USD I members – **30 USD** I No-members

African Water and Sanitation Association

Association Africaine de l'Eau et de l'Assainissement

AfWASA / AAEA

INDIVIDUAL MEMBERS

UNLEASH THE POWER OF COLLABORATION WITH AfWASA!

Invest in the future with AfWASA. As a member, take part in our governance and take advantage of our exclusive services such as our free publications and privileged access to training courses and events. More than a membership, it is a partnership for a greener future.

Benefit from:

- **A role in the governance of AfWASA**
- **Free publication of articles in our magazine and webzine**
- **Access to the Benchmarking Platform and more...**

One noteworthy advantage of joining AfWASA as an individual member (students, consultants and other professionals) is the unique opportunity to affiliate with a prominent organization that holds chairmanship in the African Union. As part of an extensive network in the water and sanitation sector across Africa, individual members can forge valuable connections, gain access to significant resources, and influence policy-making at a continental level. This presents a substantial chance for personal development, staying abreast of the latest industry trends and making contributions to sustainable water and sanitation practices across Africa.

Join AfWASA as an Individual member and enjoy exclusive access to publish your articles for free, a Benchmarking platform, as well as sponsored trainings and events. Let's take advantage together to advance the water sector in Africa.

Students	Other Professionals	International Members
€ 15	€ 50	€ 75

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Training02

Domain **Sustainable sanitation management**

Activities Improved access to sustainable sanitation

Module

Operation and maintenance of Faecal sludge treatment plants (FSTP)

Cotonou I Bénin **27 - 31 May 2024** **30 h** (5 Days)

Objectif Général

Improve technical and administrative capacity in the sustainable management of a Faecal sludge treatment plant (FSTP)

Objectif Opérationnels

At the end of this course, participants will be able to:

- Understand the importance of administrative management for the sustainable operation of faecal sludge treatment plants.
- Be able to define an effective monitoring, operation and maintenance plan to guarantee treatment performance.
- Understand the importance and role of operation and maintenance of faecal sludge treatment plants.
- Understand the critical points of operation and maintenance, to be taken into account right from the planning and sizing phases.
- Understand the health and safety issues involved in managing a faecal sludge treatment plant (FSTP).

Contenus

The following content will be developed to achieve the above objectives.

- Pre-construction considerations for the plant
  - Location of the plant, level of technical sophistication of the plant, type of end products desired, availability of resources
  - Sludge quantification and qualification
- Sludge reception activity
  - Planning and/or management of traffic in the STBV
  - Sludge control
- Operation and maintenance plan for the STBV
  - Operating procedures
  - Maintenance procedures
  - Management of equipment and consumables
  - Monitoring of physico-chemical and microbiological parameters
  - Management of final products
  - Keeping the various registers (or the operating book) and archiving
- Safety and hygiene issues in the FSTP
  - PPE and its importance
  - Risks of human contamination and their management
  - Hygiene and pest management
  - Emergency management
- Administrative management of a FSTP
  - FSTP human resources management
  - financial management (if applicable) of a station

Site

on-site visit to one or two Faecal sludge treatment plants

Target audience

Municipal sanitation department staff, technical managers from NGOs, middle and central level managers from sanitation departments, managers from consultancy firms, students completing their sanitation training, etc.

500 USD I members – **600 USD** I No-members

Training03

Domain **Drinking water network operation**

Activities Improving drinking water network efficiency

Module

Optimising drinking water networks management to reduce non-revenue water

Lilongwe I Malawi **24 - 28 June 2024** **30 h** (5 days)

General Objectives

Improve technician's capacity to control water losses

Operational Objectives

A the end of this training, participants will :

- Understand the economic issues involved in water management and the costs associated with non-revenue water.
- Master the basic principles of optimising drinking water networks.
- Acquire the skills needed to identify, locate, and quantify water losses in networks.
- Learn advanced techniques for detecting leaks and reducing water losses.
- Explore strategies for identifying and reducing commercial losses.
- Develop concrete action plans to optimise drinking water networks and reduce losses.

Contents

The content below will be developed to achieve the above objectives.

- Introduction to Economic and Technical Concepts
  - Presentation of the economic concepts associated with water management.
  - Analysis of the costs associated with non-revenue water.
  - Introduction to the basic principles of optimising drinking water networks.
- Identification and Location of Water Losses
  - Techniques for mapping and monitoring drinking water networks.
  - Methods for detecting leaks and water losses.
  - Use of cutting-edge technologies such as real-time monitoring systems and drones.
- Reducing commercial losses
  - Advanced strategies to reduce water losses, including network rehabilitation and preventive maintenance.
  - Water pricing approaches to encourage conservation and reduce losses.
  - Financial management of drinking water network optimisation projects.
- Development of Action Plans and Case Studies
  - Development of action plans to optimise drinking water networks.
  - Practical case studies illustrating successful examples of reducing non-revenue water.
  - Interactive sessions for discussion and sharing of experiences between participants.

site

On site visit to a hydraulic installation

Target audience

Water management experts
Engineers and technicians
Managers of water and wastewater services
Professionals in water distribution companies
Water Project managers

500 USD I members – **600 USD** I No-members

African Water and Sanitation Association

Association Africaine de l'Eau et de l'Assainissement

AfWASA / AAEA

CORPORATE MEMBERS

HARNESS THE POWER OF COLLABORATION WITH AfWASA!

Enjoy the following benefits:

- **A role in the governance of AfWASA**
- **Free publication of articles in our magazine and webzine**
- **Access to the Benchmarking Platform and more...**

One major advantage of joining AfWASA as a corporate member (water utilities, sanitation companies, universities, regulators) is the remarkable opportunity to access a broad and diverse network of professionals in the water and sanitation sector across Africa. This can pave the way for new opportunities, collaborations, learning, and sharing of best practices. Moreover, AfWASA's significant position as a chair within the African Union gives members potential direct access to shaping policies and strategies at the continental level. This level of influence could be instrumental for members in driving sector advancements, creating a sustainable water and sanitation environment across Africa.

Join AfWASA as an Corporate member and enjoy exclusive access to publish your articles for free, a Benchmarking platform, as well as sponsored trainings and events. Let's take advantage together to advance the water sector in Africa.

Regulators/Heritage , Municipalities, Academic Institutions	Small Size
€ 250	Annual turnover from 0 - 150,000 € **€ 350**
Medium size	**Large size**
Annual turnover between 150,000 - 500,000 € **€ 1,000**	Annual turnover of more than 500,000 € **€ 2,000**

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Training 04

Domain ▶ Quality, safety and environment

Activities ▶ Quality

Module

Quality management system in compliance with ISO 9001 V 2015

Abidjan I Côte d'Ivoire **08 - 12 July 2024** **30 h** (5 Days)

General Objectives

Manage customer relations in compliance with ISO 9001:2015 QMS requirements

Operational Objectives

At the end of this training, participants will be able to:

- Master Quality and safety environment
- Understand the concepts and challenges of customer management
- Apply the principles and requirements of ISO 9001:2015 to improve customer satisfaction
- Know how to manage customer relations effectively

Contents

General information on quality management

- Definition of some quality concepts
- History of quality management
- The family of quality standards
- The various changes to ISO 9001
- The seven management principles of ISO 9001/2015
- Quality issues

ISO 9001 version 2015 and customer management in companies

- The concept of customer management
- The challenges of customer management
- Normative references according to ISO 9001 and customer management
- The challenges of customer management in African water utilities
- The benefits of customer management for a utility

Customer management tools

- Standards and guidelines relating to customer management

ISO 10002 guidelines for handling complaints in organisations
ISO 10003 guidelines for external conflict resolution in organisations
ISO 10008 quality management -- Customer satisfaction -- Guidelines for B2C e-commerce transactions

Customer welcome procedure
Physical reception
Telephone reception

Other tools

Customer satisfaction survey
Customer complaints
Customer satisfaction form

Customer satisfaction indicator

Suggestions or ideas box Technical Audit for customer management in an organisation

- Definition of audit concepts
- Preparing for the audit
- Advice on the implementation of audit
- Follow-up of audit findings
- Case studies

site

Visit of a certify utility

Target audience

Quality managers, quality supervisors, quality assistants, quality directors, executive assistants, secretaries and all customer service staff.

500 USD I membres – **600 USD** I No-membres

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AfWASA / AAEA

AFFILIATE MEMBERS

FORGE COLLABORATIVE RELATIONSHIPS WITH AfWASA!

Enjoy the following benefits:

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- **Free publication of articles in our magazine and webzine**
- **Access to the Benchmarking Platform and more...**

One significant benefit of joining AfWASA as an affiliate member (NGOs, associations, industries, and consulting firms) is the privilege of aligning with a respected entity that holds a chair position within the African Union. This not only provides a comprehensive networking platform with professionals across the water and sanitation sector in Africa but also offers potential direct influence on shaping policies and strategies at a continental level. Through this, members can have an impactful role in progressive developments and sustainable practices within the water and sanitation landscape across Africa.

Join AfWASA as an Affiliate member and enjoy exclusive access to publish your articles for free, a Benchmarking platform, as well as sponsored trainings and events. Let's take advantage together to advance the water sector in Africa.

NGOs	Industries
€ 250 - African member € 400- International member	€ 1,000 - African member € 1,500 - International member

Service providers
€ 500 - African member € 750 - International member

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Training05

Domain **Drinking water and sewerage**

Activities Improving access to drinking water and sanitation services

Module

Municipal project management (MPM) for water and sanitation services

Bafoussam I Cameroun **22 - 26 July 2024** **30 h** (5 Days)

General Objectives

Improving universal access to drinking water and sustainable sanitation services

Operational Objectives

At the end of this training, participants will be able to :

- Take stock of the implementation of communal project management
- Explain the concept of communal project management;
- Define the role of municipal project management assistance;
- Be familiar with the dimensions and tools of municipal project management assistance;
- Identify the actions to be taken in the context of municipal project management for water and sanitation services.

Contents

The following content will be developed in order to achieve the above objectives.

- Description and analysis of municipal project management practices in drinking water and sanitation;
- Municipal project management: Concepts and issues in decentralisation;
- Municipal project management: actors, roles and responsibilities
- Municipal project management: dimensions and tools ;
- MPM experiences: the case of Bafoussam in rural and urban areas;
- Communal responsibility for water and sanitation: foundations and content;
- Users' expectations and the principles of local public service in water and sanitation;
- Key concepts in municipal project management process;
- Municipal development planning;
- Management of municipal assets (infrastructure);
- The plan for reinvesting what has been learnt.

Site

Visit of municapal infrastructure

Target audience

NGO managers, Students and researchers, Consultants, Water and sanitation service providers, Municipal engineers, and technicians

500 USD I members – **600 USD** I No-members

Training 06

Domain **Drinking water network operation**

Activities Improving drinking water network efficiency

Module

Optimising drinking water networks management to reduce non-revenue water

Lomé I Togo **05 - 09 August 2024** **30 h** (5 Days)

General Objectives

Improve technician's capacity to control water losses

Operational Objectives

A the end of this training, participants will :

- Understand the economic issues involved in water management and the costs associated with non-revenue water.
- Master the basic principles of optimising drinking water networks.
- Acquire the skills needed to identify, locate, and quantify water losses in networks.
- Learn advanced techniques for detecting leaks and reducing water losses.
- Explore strategies for identifying and reducing commercial l losses.
- Develop concrete action plans to optimise drinking water networks and reduce losses.

Contents

The content below will be developed to achieve the above objectives.

- Introduction to Economic and Technical Concepts
  - Presentation of the economic concepts associated with water management.
  - Analysis of the costs associated with non-revenue water.
  - Introduction to the basic principles of optimising drinking water networks.
- Identification and Location of Water Losses
  - Techniques for mapping and monitoring drinking water networks.
  - Methods for detecting leaks and water losses.
  - Use of cutting-edge technologies such as real-time monitoring systems and drones.
- Reducing commercial, technical, and apparent losses
  - Advanced strategies to reduce water losses.
  - Water pricing approaches to encourage conservation and reduce losses.
  - Financial management of drinking water network optimisation projects.
- Development of Action Plans and Case Studies
  - Development of action plans to optimise drinking water networks.
  - Practical case studies illustrating successful examples of reducing non-revenue water.
  - Interactive sessions for discussion and sharing of experiences between participants.

site

On site visit to a hydraulic installation

Target audience

Water management experts
Engineers and technicians
Managers of water and wastewater services
Professionals in water distribution companies
Water Project managers
Etc.

500 USD I members – **600 USD** I No-members

Training07

Domain **Sustainable sanitation management**

Activities Improved access to sustainable sanitation

Module

Sizing and management of different types of faecal sludge treatment plants (FSTP)

Yaoundé I Cameroun **26 - 30 August 2024** **30 h** (5 Days)

General Objectives

Improve technical and administrative skills in the design, sizing, and sustainable management of a Faecal sludge treatment plant.

Operational Objectives

A L'issue de cette formation les participants seront capables de :

- Understand the importance of administrative management for the sustainable operation of faecal sludge treatment plants.
- Define the dimensions of a FSTP.
- Understand the importance and role of effective management of a faecal sludge treatment plant.
- Understand the critical points in the design of a FSTP that need to be considered in the planning and sizing phases.
- Understand the health and safety issues involved in managing a faecal sludge treatment plant (FSTP).

Contents

The following content will be developed to achieve the above objectives .

The following content will be developed to achieve the above objectives .

- Autonomous Sanitation
  - Introduction to on-site wastewater treatment
  - Different types of faecal sludge treatment plants
  - Wastewater management
- Principles of FSTP designing
  - Preliminary studies for the installation of a FSTP
  - Choice of an appropriate treatment technologies
  - Economic and sustainability aspects of the design
- Sizing of equipments
  - Basic principle of FSTP sizing
  - Choice of treatment equipment
  - Calculation of treatment capacities and flow rates
- Operational management and maintenance (2) case studies
  - Planning and implementation of the operational management of a FSTP
  - Preventive and corrective maintenance of equipment
  - Risks of human contamination and their management
  - Hygiene and pest management
  - Management of treatment by-products
  - Wastewater discharge standards

site

on-site visit to one or two faecal sludge treatment plants

Target audience

FSTP Manager
Students,
Emptiers
Sanitation project managers
Technicians specialising in wastewater treatment
Town hall Tehnicians
Sanitation managers and engineers

500 USD I members – **600 USD** I No-members

Training08

Domain **Drinking water and sanitation**

Activities Improving acces to drinking water

Module

ARSENIC REMOVAL FROM GROUND AND SURFACE OF WATER

Online **09 - 13 September 2024** **18 h** (days)

General Objectives

Building the capacities of participants to master the removal of arsenic from drinking water

Operational Objectives

At the end of this training,

- Participants will gain in-depth knowledge of arsenic contamination in water sources.
- Participants will be equipped to address challenges and make informed decisions in arsenic removal projects.
- Participants will be familiar with various arsenic detection and removal technologies.
- Participants will understand the design and implementation considerations for arsenic removal systems.

Contents

Content below will be developped to reach the outcomes.

- Understanding Arsenic Contamination
  - Overview of arsenic in water sources
  - Health effects and regulatory standards
  - Global and regional prevalence
  - Natural and anthropogenic sources
  - Different forms of arsenic in water
  - Case studies of arsenic-contaminated areas
- Water Quality Assessment and Arsenic Detection
  - Sampling techniques and Laboratory analysis methods
  - Overview of arsenic detection methods
  - Field-testing kits and their applications
- Arsenic Removal Technologies
  - Coagulation, floculation, precipitation and sedimentation
  - Filtration technique
  - Ion exchange and membrane filtration
  - Iron-based adsorbents
- Case Studies, Design, and Implementation
  - Showcase of arsenic removal projects
  - Lessons learned from successful implementations.
  - Operation and maintenance practices
  - Challenges faced and overcome

site

Visit arsenic removal station

Target audience

Water sector professionals,
Engineers
Environmental scientists
Government officials
Water quality management and treatment experts.
NGOs
Project managers

100 USD I members – **170 USD** I No-members

Training09

Domain **Water Quality**

Activities Improving water quality

Module

Advanced training in metrology for water analysis laboratories: optimizing measurement procedures and ensuring the accuracy of results

Ouaga I Burkina **23 - 27 September 2024** **30 h** (5 Days)

General Objectives

Improve the technical skills of laboratory technicians in water quality analysis

Operational Objectives

At the end of this training, participants will be able to:

- Understand the fundamental principles of metrology applied to water analysis.
- Acquire advanced skills to optimise measurement procedures in a water quality control and analysis laboratory.
- Master advanced techniques and tools to guarantee the accuracy and reliability of analysis results.
- Learn how to set up a metrological quality assurance system in a water analysis laboratory
- Identify and resolve potential sources of error in measurements

Contents

The content below will be developed to achieve the above objectives

- Fundamentals of Metrology Applied to Water
  - Introduction to metrology and its applications in the water sector
  - Metrology standards and regulations for water analysis laboratories
  - Basic principles of physico-chemical and microbio logical measurements
- Advanced Laboratory Measurement Techniques
  - In-depth study of measuring instruments in water analysis laboratories
  - Calibration and verification of measuring equipment
  - Management of measurement uncertainties
- Optimization of measurement procedures
  - Critical analysis of existing measurement proce dures.
  - Development of optimised measurement protocols.
  - Use of advanced metrological software.
- Metrological quality assurance in analytical laboratories
  - Implementation of a metrological quality assurance system.
  - Internal and external metrology audits.
  - Solving problems linked to the quality of results.

site

Field visit to one or two water analysis laboratories

Target audience

Professionals in the water sector,
Managers of water analysis laboratories,
Laboratory technicians, metrologists
Quality engineers

500 USD I members – **600 USD** I No-members

Traning10

Domain **Water in rural areas**

Activities Improving water quality in rural areas

Module

Building & Management of mini-drinking water supply systems in rural areas

Conakry I Guinée **07 - 11 October 2024** **30 h** (5 days)

General Objective

Improving the technical capacities of rural water managers

Operational Objectives

At the end of this training, participants will be able to:

- Acquire the skills needed to design mini-Water supply systems adapted to the specific needs of rural communities.
- Carry out feasibility studies by assessing available resources, user needs and environmental constraints.
- Master the appropriate construction techniques for mini-Water supply systems, considering available local resources.
- Acquire skills for preventive maintenance of equipment.
- Diagnose and solve the technical problems common to mini water supply systems.

Contents

The content below will be developed to achieve the above objectives.

- Introduction to rural drinking water supply mini-systems
  - Challenges and issues related to drinking water supply in rural areas.
  - Analysis of drinking water and irrigation needs in rural communities.
  - Presentation of the various mini-drinking water systems.
- Design of drinking water supply infrastructures in rural areas
  - Assessment of water resources
  - Needs analysis
  - Choice of appropriate system
- Building and installation of pumping systems
  - Study of the different sources of water in rural areas (wells, springs, tanks, etc.).
  - Methods of collecting, storing and distributing water.
  - Use of technologies adapted to resource-poor communities.
- Management and Maintenance of Drinking Water Supply Systems
  - Importance of community management in the sustainability of projects.
  - Training in preventive and corrective maintenance of infrastructure.
- Community participation and awareness-raising
  - Participatory approaches to project planning and implementation.
  - Raising awareness of water-related health issues in rural areas.
  - Development of community action plans to ensure the sustainability of water systems.

site

field visit to the construction and installation of mini water supply systems in rural areas

Target audience

Engineers, Rural water expert, Project managers, Community actors, NGOS, Students.

500 USD I members – **600 USD** I No-members

Training11

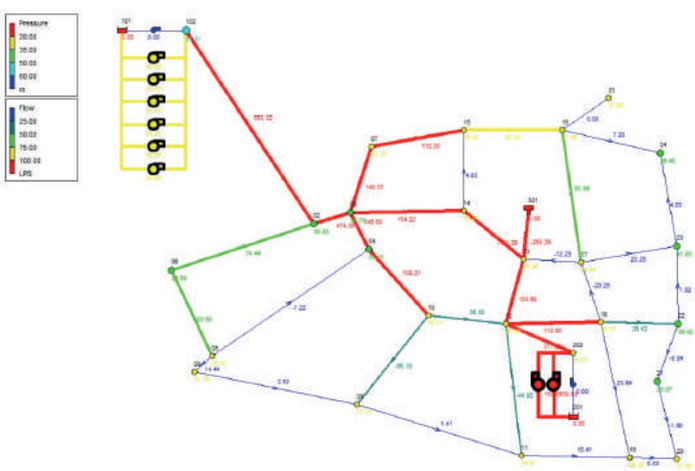
Domain **Operation of drinking water networks**

Activities Improvements of water networks

Module

Modelling hydraulic networks: using innovative tools (Epanet, Watercard)

Lomé I Togo **21 - 25 October 2024** **30 h** (5 Days)



General Objective

Improving the technical capabilities of hydraulic managers and experts in the use of innovative tools.

Operational Objectives

At the end of this training, participants will be able to:

- Understand the fundamental principles of drinking water network modelling.
- Master the use of hydraulic modelling tools, with particular emphasis on EPANET and Watercard.
- Learn how to interpret the results of hydraulic models to optimize the management of drinking water networks.
- Acquire practical skills for solving complex problems related to drinking water distribution.

Contents

- Introduction to Hydraulic Modelling
  - Basic concepts of drinking water network modelling
  - Current issues in water network management.
  - Advantages and limitations of hydraulic modelling.

- EPANET - Fundamentals and Practice
  - In-depth presentation of EPANET: features and capacities.
  - Creating hydraulic models with EPANET.
  - Simulation of various scenarios: flow variations, pressure changes, etc.
  - Analysis of results and decision-making.

- Watercard - Innovative Tool for Water Network Management
  - Overview of MasterCard and its role in hydraulic modelling.
  - Advanced use of Watercard for monitoring and optimising drinking water networks.
  - Case studies with concrete examples of applications.

- Practical Application and Case Studies
  - Intensive practical session to solve real problems using EPANET and Watercard.
  - Case studies of successful modelling project.
  - Discussion of specific challenges encountered by participants and adapted solutions.

Site

site visit of hydraulic network

Target audience

Water sector professionals, hydraulic engineers
water network management technicians, water distribution managers, water management consultants.
Students

500 USD I members – **600 USD** I No-members

Training12

Domain **Data collection**

Activities Data collection Technic

Module

Utilisation of mobile applications for data collection

Ouaga I Burkina **11 - 14 November 2024** **30 h** (5 Days)

General Objective

Building capacity in data collection techniques

Operational Objectives

At the end of this training, participants will be able to :

- Understand the basic principles of mobile applications and their use in data collection
- Set up and use mobile applications for data collection
- Apply data collection methods and best practices
- Ensure the security of the data collected
- Apply the skills acquired in real-life scenarios

Contents

The content below will be developed to meet the above objectives.

- Introduction to mobile applications
- Data collection
- Data security
- Use of mobile applications
- Data analysis and exploitation

Target audience

Water company staff:

Technicians and engineers responsible for collecting and analyzing data on water resources.
Field operators responsible for data entry.
Data analysts responsible for interpreting and using the data collected.
Project managers and officers:
Directors or heads of department of water companies, responsible for making strategic decisions based on data.
Water resource management project managers, involved in collecting and using data to assess the impact of projects.
Other stakeholders:
Consultants working in the water sector and wishing to improve their data collection skills.
Representatives of governmental or non-governmental organizations involved in water resource management.

500 USD I members – **600 USD** I No-members

Training13

Domain **Drinking water and sanitation**

Activities Improving acces to drinking water

Module

Fluoride Removal from Fresh Water at Community and Household Levels - Innovative filter-technology for clean, safe and affordable drinking water

Dakar I Sénégal **18 - 20 November 2024** **30 h** (5 Days)

General Objective

Building the capacities of participants to master the removal of fluoride from drinking water

Operational Objectives

At the end of this training

- Participants will gain in-depth knowledge of arsenic contamination in water sources.
- Participants will be familiar with various arsenic detection and removal technologies.
- Participants will understand the design and implementation considerations for arsenic removal systems.
- Participants will be equipped to address challenges and make informed decisions in arsenic removal projects.

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Contents

Content below will be developped to reach the outcomes.

- Understanding Arsenic Contamination
  - Overview of arsenic in water sources
  - Health effects and regulatory standards
  - Global and regional prevalence
  - Natural and anthropogenic sources
  - Different forms of arsenic in water
  - Case studies of arsenic-contaminated areas
- Water Quality Assessment and Arsenic Detection
  - Sampling techniques and Laboratory analysis methods
  - Overview of arsenic detection methods
  - Field-testing kits and their applications
- Arsenic Removal Technologies
  - Coagulation, floculation, precipitation and sedimentation
  - Filtration technique
  - Ion exchange and membrane filtration
  - Iron-based adsorbents
- Case Studies, Design, and Implementation
  - Showcase of arsenic removal projects
  - Lessons learned from successful implementations.
  - Operation and maintenance practices
  - Challenges faced and overcome

Site

Onsite visit of fluoride removal station

Target audience

Water sector professionals,
Engineers
Environmental scientists
Government officials
Involved in water quality management and treatment.
NGO
Responsables de projets

100 USD I members – **170 USD** I No-members

Training 14

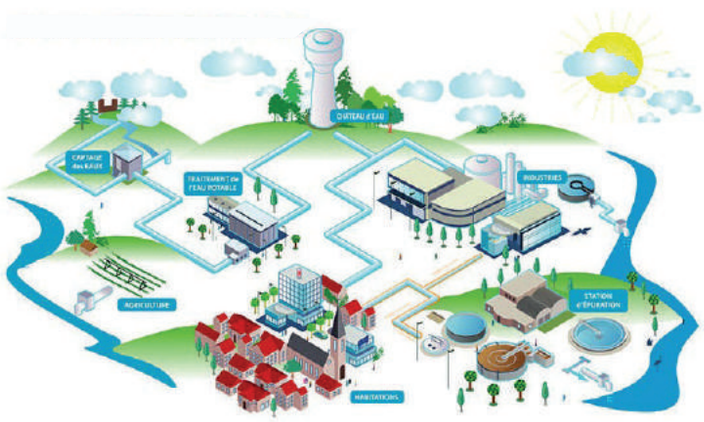
Domain **Water Quality**

Activities Improving network operations

Module

Integration of geographic information systems (GIS) into the management of drinking water networks

Abidjan I Côte d'Ivoire **25 - 29 November 2024** **30 h** (5 Days)



General Objective

Improve the technical capacities of network managers

Operational Objectives

At the end of this training, participants will be able to :

- Acquire technical mastery of GIS tools
- Understand the principles of identifying the main structures/equipment on networks
- Master the breakdown of water consumption volumes by geographical area
- Reduce the time taken by field teams to locate customers
- Develop spatial analysis skills to detect leaks
- Integrate real-time data into GIS for continuous monitoring
- Develop GIS-based crisis management strategies

site

site visit to building and installation of leak detection systems

Target audience

Water management experts, Hydraulic engineers
Responsible for collection, control, fraud or non-revenu water
Water infrastructure maintenance managers
Water sector professionals interested in GIS integration

500 USD I members – **600 USD** I No-members

Contents

The following content will be developed to meet the above objectives.

- Introduction to GIS and Water Fundamentals
  - Presentation of Geographic Information Systems (GIS)
  - Context and challenges of drinking water management
  - Mapping of drinking water networks
  - GIS software and hardware tools
  - Design and implementation of the GIS database (water)
- Advanced use of GIS for drinking water network management
  - GIS user matrix
  - GIS governance within the water company
  - Creation and updating of hydraulic and commercial meshes in the GIS
  - GIS interface with customer database and CMMS
  - Targeted communication with customers affected by incidents
  - Geospatial modelling of water infrastructures
  - Geographic data collection for drinking water networks
  - Spatial analysis to optimise drinking water networks
- Calculation of the billing ratio for water volumes
  - Calculation of the volumes of water consumed by hydraulic and commercial network and sub-network.
  - Estimate of unbilled water by commercial and hydraulic mesh
  - Summary of the volumes of water distributed to the hydraulic meshes by the smart meters.
  - Detection of leaking zones meshes or sub-meshes.
  - Calculation of hydraulic mesh efficiency
- Early leak detection using GIS.
  - Principles of early leak detection
  - Integration of IoT (Internet of things) sensors in GIS
  - Advanced modelling techniques for anomaly detection
  - Optimal Management and Maintenance of Hydraulic Infrastructures
  - Intervention management based on GIS.
  - Preventive and corrective maintenance of drinking water networks
  - Case studies and practical exercises

African Water and Sanitation Association

Association Africaine de l'Eau et de l'Assainissement

AfWASA / AAEA

AfWASA DIRECTORY 2024

TARIFF LIST (before tax) IN US-Dollar

SPACE AND ADVERTISING SITE	CORPORATE & AFFILIATE MEMBERS	AfWASA NON-MEMBERS
Logo on 1st cover page	800	900
2nd cover page	1200	1300
3rd cover page	1400	1500
4th back page	1600	1700
1 Full colour page	1400	1500
1 Full normal page	1200	1300
½ colour page	1000	1100
½ normal page	900	1000
¼ colour page	850	900
¼ normal page	800	850
Contact details	500	600
Press release	1000	1200

Technical fees: If the customer did not provide the printing material, the artwork (film) production (design, composition, printing) fees which represent 25 % of the unit cost in addition should be paid by the customer.

Technical specification: Please, provide MAC or PC digital file in 300 **dpi** resolution to **Eps, jpg, Pdf or Tif** format**.**

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FORM TO BE FILLED

Name

First name

Organization

Position

Country

Number

Email address

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Partners

African Water and Sanitation Association

Association Africaine de l'Eau et de l'Assainissement

AfWASA / AAEA

22nd AfWASA International Congress & Exhibition

Theme: Water and Sanitation for all : A Secure Future for Africa

16-20 February 2025

Kampala, Uganda

www.afwasa2025.org