Improved Non-Revenue Water Management in Water Utilities

**GAIN** hands-on, practical experience on non-revenue water reduction

**LEARN** from other practitioners in the sector

**BE UP TO DATE** on the latest trends in the sector

**BENEFIT** from regional and global experiences from other utilities and experts
**Improved Non-Revenue Water Management in Water Utilities**

**Understand** the Non-Revenue Water (NRW) concept and components

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<tr>
<th>System Input Volume</th>
<th>Authorised Consumption</th>
<th>Billed Authorised Consumption</th>
<th>Billed Metered Consumption</th>
<th>Revenue Water</th>
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<td>Unbilled Metered Consumption</td>
<td>Unbilled Unmetered Consumption</td>
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<td>Apparent Losses</td>
<td>Unauthorised Consumption</td>
<td>Unauthorised Consumption and Data Handling Errors</td>
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<td>Real Losses</td>
<td>Leakages on Transmission and Distribution Mains</td>
<td>Leakages on Service Connections</td>
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<td>Real Losses</td>
<td>Leakages and Overflows at</td>
<td>Leakages and Overflows at Storage Tanks</td>
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**Gain** practical experience in developing and evaluating a water balance in your utility and use the state-of-art tools for the water balance development

**Get an overview** of the methods of intervention to improve NRW management

Based on Pilcher, R., Leak detection practices and techniques: a practical approach. Water 21, 2003
**Understand** the purpose of establishing DMAs and enhance your knowledge about rules and preconditions for DMA definition and maintenance.

Based on Farley, M., Leakage Management and Control, WHO, 2001

**Improve** your knowledge and skills on active leak detection.

**Learn** about the operation principles of flow and pressure measurement equipment and gain hands-on experience on how to work with it.

**Acknowledge the benefits** of developing and implementing a NRW action plan and acquire the approach and methodology for its development.

**Gain practical experience** in developing your utility’s NRW action plan with focus on key priority measures to be implemented.
Improved Non-Revenue Water Management in Water Utilities

Program description and covered topics

This Program develops capacities of and provides technical support to water utilities for effective Non-Revenue Water (NRW) management to improve their performance and sustainability of water services. The establishment of efficient NRW management routines assists the participating utilities to reduce water production and distribution costs, improve financial and operational performance and create conditions to apply for financial resources needed for capital investment projects.

Through theoretical presentations and practical exercises, the Program expands knowledge on technical aspects of NRW management and strengthens their individual, organizational and institutional capacities to apply the skills developed in their day-to-day work. In addition, the Program contributes to the exchange of experiences and good practices amongst water utilities and thus involves a strong networking component.

The Program has been developed at the regional level in cooperation with the Technical Partner Una Consulting, who ensures that the Program is technically sound and develops guidelines, tools, training material and manuals and delivers the Training of Trainers. The Program is delivered through national or regional Hubs in local language. Participating utilities pay a registration fee, which is communicated by the Hub.

Set-up of Program

The Program is designed on learning-by-doing principles. It includes a mix of face-to-face training workshops providing tools and techniques to address the challenges faced and see them applied in practice, followed by on the job training, in which participating utilities apply the tools and techniques to their particular situation and develop concrete products (diagnostics, action plans etc.). The principles of blended learning are applied, i.e. face-to-face training is accompanied by e-learning material provided within the D-LeaP Academy.

For more information on the Program concept and design please visit www.d-leap.org.

Learning goals

- How to develop and evaluate the IWA water balance?
- How to establish DMAs and implement working procedures in them?
- How to implement active leak detection in your utility?
- How to develop a simple Non-Revenue Water management plan with a focus on key priorities and immediate actions?

Hubs

- AQUASAN, Aquasan Network in Bosnia and Herzegovina
- SHUKOS, Water and Wastewater Works Association of Kosovo / SHUKALB, Water Supply and Sewerage Association of Albania

Technical Partner

UNA CONSULTING
Resource Centre and Consultancies for Water and Environment

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