







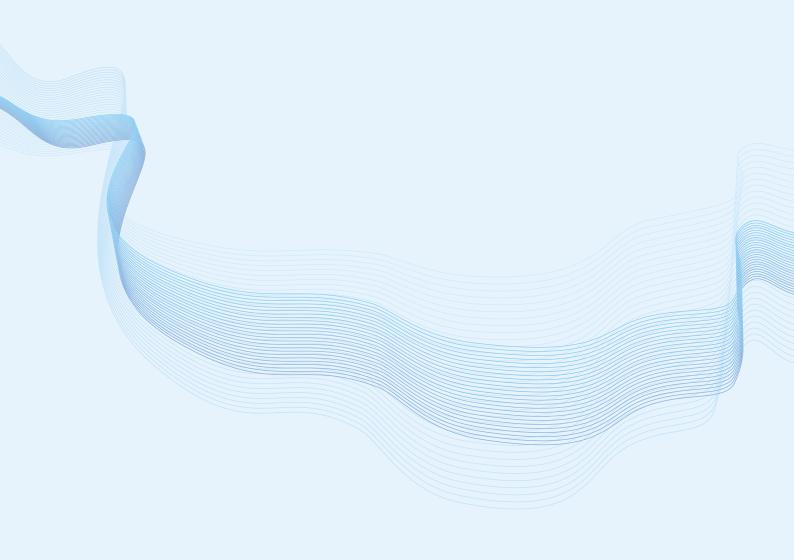


PLANNING AND COMMERCIAL EFFICIENCY IMPROVEMENT PROGRAM

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Joint Venture Consultants:

Valu Add Management Services Waterworks of Budapest New Europe Corporate Advisory BDL Environmental Consulting













BUSINESS PLANNING AND COMMERCIAL EFFICIENCY **IMPROVEMENT PROGRAM**

BACKRGROUND

The Danube Water Program supports policy dialogue and capacity development in the water supply and wastewater sector in the Danube region. As part of the Danube Water Program, the International Association of Water Supply Companies in the Danube River Catchment Area (IAWD) launched a "Regional Commercial Efficiency Training Program" for water and sanitation (WSS) utilities.

The program consisted of capacity building workshops on business planning and targeted technical assistance. A consortium led by Valu Add Management Services based in Tirana, Albania was appointed for the design and implementation of this program. The activity started in October 2014 and was completed in October 2015.

PROJECT OBJECTIVES

The overall objective of the project was to conceptually develop, organize and implement the "regional commercial efficiency in water supply and sanitation utilities training program" activity under the Danube Water Program.

The specific project objectives included the following:



- ► To design a Business Planning and Commercial Efficiency capacity building program for WSS utilities, based on international best practices and existing approaches;
- To take overall responsibility for the delivery of the program, including provision of support to the utilities in improving commercial management practices (bill collection, customer relations, etc.);
- To support follow-up activities, including the drafting and implementation of business plans for participating utilities;
- To document approaches, tools, instruments, lessons learned and good practices in improving utility commercial efficiency during the activity.











COMMERCIAL EFFICIENCY PERFORMANCE INDICATORS

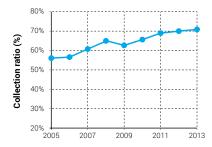
A set of selected Performance Measures and Performance Indicators were selected for inclusion in the Commercial Efficiency Program. This selection was based on an analysis of activities in the commercial cycle of utilities, which can be grouped into four distinct stages:

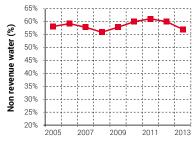
- Meter Management: the activities of meter installation, maintenance, and calibration, since this is where the network operations "meet" the commercial activities;
- Meter Reading: the activities of periodically recording and/or retrieving the meter values of water volume passing through the meter;

- Customer Billing: the activities of data entry of meter readings, data management including assumptions, distributing common needs, etc., and producing the customer ill (invoice);
- **Bill Collection**: the activities of cash collection, bank transfer payments, and all other means established to make bill payment by the customer as effortless and timely as possible, at a reasonable cost to the utility.

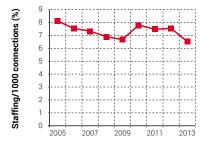
The following Commercial Performance Indicators were selected for inclusion in the program:

EXAMPLE OF GRAPHS SHOWING PERFORMANCE INDICATORS





- Non revenue water
- Staffing Efficiency
- Collection Rate
- Service Coverage





Metered Connections











UTILITIES PARTICIPATING IN THE PROGRAM

Initially the program was designed to involve about 40 utilities from five target countries: Moldova, Ukraine, Montenegro, Kosovo and Macedonia. To get a better understanding of the water sector in these countries, the Project Team sent out a questionnaire to each National Water Association requesting information grouped into two categories:

- Structure of the water sector in the target country
- Water sector performance in the target country

A call for applications was developed in close collaboration with the National Water Associations in each country, inviting potential water utilities to participate in the Business Planning and Commercial Efficiency Program. The National Water Associations of Kosovo, Montenegro, Moldova and Macedonia confirmed the interest of their utilities to be involved in this project.

The final number of utilities that participated in the program was 21. No utilities from Ukraine were able to participate because of the demands of the currently operating Benchmarking Capacity Building Program, as well as the cost of participating in the Commercial Efficiency Project.

The Project engaged a National Expert in each country to serve as an integral part of the training delivery and to provide in-country support and guidance to all participating water utilities during the business planning training sessions and on-site technical assistance. An agreement was drawn up between each participating utility and the project, defining the following responsibilities on the side of the utility:

- Commitment from the top management to participate in the Program
- Program participation of at least two and ideally three senior level utility management members (technical, financial, etc.)
- Commitment to attend all events organized as part of the Program including training sessions and workshops.
- Willingness to provide any related benchmarking data from this Program to the DWP DANUBIS data base
- Payment of a fee of 500 € for participation in Phase II – Business Planning Training Course, and of an additional fee of 500 € if selected to participate in Phase III - On Site Technical Assistance.

Utilities participating in the Program:

Kosovo

- RWC Hidroregjioni Jugor
- RWC Hidromorava
- **RWC Prishtina**
- RWC Radonigi
- ▶ RWC Bifurkacion
- RWC HidroDrini RWC Mitrovica

Montenegro

- Water Supply and Sewerage Company "Nikšić"
- Water Supply and Sewerage Company "Bijelo Polje"
- Water Supply and Sewerage Company "Cetinje"

Macedonia

- JKP "Tetovo"
- JKP "Bitola"
- JKP "Derven Veles"

Moldova

- S.A. Regia Apă-Canal Orhei
- ▶ Î.M. "Comunservice" Criuleni
- Întreprinderea Municipala Regia "Apa-Canal Balti"
- Întreprinderea municipală "Apă-Canal" Cahul"
- Societatea Comerciala "Amen Ver" Hincesti
- Societatea pe Acțiuni "Servicii Communale Floreşti"
- Întreprinderea municipală "Apă-Canal" Stefan Vodă
- ▶ Întreprinderea municipală "Apă-Canal" Ungheni











PROJECT IMPLEMENTATION STRATEGY

Under the original technical approach and methodology, the Project was organized in phases as outlined in the original scope. The Implementation Project Strategy was mainly delivered in two fundamental phases:

Development and Delivery of Capacity Building Program (Phase II):

The keystone of the Project was the application of a well-tested and accepted Business Planning Training Course that has been developed by Valu Add Management Services and has been applied in a number of countries. The course details were modified specifically to the Commercial Efficiency performance measures that were agreed with IAWD. The training course was enriched with examples based on the international experience of the trainers, as well as regional knowledge related to business planning and commercial efficiency of water utilities in Albania, Romania, Hungary, etc.

At the end of each training session, an assessment report was prepared describing the progress made and assessing the quality of participation of each utility attending the session. These assessments were used at the end of the Business Planning Training

Course to rank the utilities and determine which utilities qualify for the Technical Assistance phase of the Program.

Using this ranking, a list recommending 15 utilities that should be offered direct Technical Assistance under Phase III of the Program was submitted to the DWP/IAWD Project Team after the Business Planning Training Course.

Support to Implementation of Capacity **Building Outcomes (Phase III)**

Phase III of the Project aimed at providing regular, timely and scheduled expert support to assist each utility in implementing its Performance Improvement Action Plans in the area of Commercial Efficiency, which had been developed in Phase II. The following set of activities were carried out:

- On-site Key Expert visits
- Monthly teleconference with Key Expert
- Data exchange through e-mail (to analyse specific situations & draft recommendations)
- Joint workshops for all utilities

BUSINESS PLANNING AND COMMERCIAL EFFICIENCY TRAINING ACTIVITIES

Training Course Development

A comprehensive Business Planning Training Course was designed to provide the necessary information and tools to assist senior management of water supply and/or wastewater utilities in the development of a Five-Year Business Plan. The process of business planning intended to stimulate the creativity of the utility's senior management in transferring solutions to management problems onto paper, as commitments to improving the utility's overall performance.

Each module of the Training Course was designed to guide participants through the procedure of developing a business plan, following a comprehensive workbook model of a business plan.



The approach followed a step-by-step business planning model process to generate the information needed for the utility's business plan. This information was generated for example by answering specific











questions, choosing from suggested topics, or filling in templates provided as blank forms. Examples were provided to assist the senior management of the utility in formulating their thoughts.

The training material also focused on key issues contributing to commercial efficiency for water utilities, by introducing the elements of the commercial cycle of a water operator particularly addressing meter installation and testing, meter reading, data entry and billing, and bill collection.

Training Delivery Events

In organizing the training/working sessions, the Project Team's aim was to raise awareness within senior management of the participating utilities about the importance and necessity of developing a comprehensive business plan for their utilities, and the need to be realistic when defining their strategic goals and performance targets.

The Business Planning Training Course was conducted in two groups covering Moldova and the Western Balkans, respectively. The course consisted of three training sessions with two full days of training each.

DATES OF THE TRAINING SESSIONS

Moldova	Western Balkans
9-10 March	12-13 March
2-3 April	30-31 March
26-27 April	28-29 April

To make the training more effective, participants from each utility were directed to conduct specific preparations before the training session (for example gathering and input of data into the business planning



TRAINING SESSION WITH UTILITIES IN MOLDOVA



TRAINING SESSION IN MONTENEGRO

workbook model, reaching consensus with senior management on strategic goals).

For each training session, the following sets of materials were developed and distributed to the participants:

- Training agenda
- Summary of key objectives for each module
- Handouts of power point presentations
- Reference manual, best practice examples, commercial efficiency, business planning template

The active participation of senior management staff of the utilities was found to facilitate the interaction between the key trainers and participants.

During the delivery of the Business Planning Training Course, each participating utility was evaluated for each session by the Key and Non-Key Experts taking part in the training, as well as by the National Experts attending the training.



TRAINING SESSION IN MOLDOVA











Development of Utility Business Plans and Excel Models



Senior management staff of each of the 20 participating utilities developed a 5 year Business Plan and detailed Performance Improvement Plans for their utilities. In this task they were assisted by the National Experts to complete the relevant Action Plans.

The Project Team provided a business planning template with instructions for the utility staff to follow when developing the main structure of their plans. The Project Team created summaries of goals in the business plans and the key commercial efficiency actions as an orientation for priority areas of assistance to be carried out during Phase III.

Assessment of Participation by the Utilities

The Project Team utilized a weighted ranking system to evaluate the participating utilities in Phase II, in order to select the fifteen utilities that would continue to Phase III and receive Technical Assistance. During the training sessions, the Experts conducting the training rated the active participation of each utility using a scoring system of 1 to 5 (with 5 as the highest score). The scoring was prepared for each one of the three Training Sessions. Furthermore, the National Experts working with the utilities in their respective countries in developing the business plans, also ranked the utilities in terms of the commitment and interest shown. Using these scores, as well as geographical considerations, the Project Team decided on the number of utilities that would be invited to participate from each country. The National Associations and National Experts were informed of this decision and were requested to directly communicate with the utilities to confirm their interest in participating in Phase III of the Project.

COMMERCIAL EFFICIENCY FOLLOW-UP ASSISTANCE (PHASE III)

On-Site Visits

Two on-site visits by a Key International Expert were organized, aimed at reviewing the Performance Improvement Action Plans developed during the Business Planning Training Course, and at providing recommendations to improve commercial efficiency programs through tailored capacity building. The Key Expert carried out the first on-site visit together with the National Expert at the beginning of Phase III. This Expert Team collected and assessed available information related to commercial efficiency programs in place. After these on-site visits, the Key Expert prepared a brief on-site visit summary report, detailing the commercial procedures that need to be introduced, changed or upgraded. This report was translated into the local national language by the National Expert and sent to the utilities. Examples of commercial efficiency best practices were presented and translated for specific utilities based on their request to follow these examples in their water utilities.

Skype Calls and Follow-up **Communication Support**

The Project Team used Skype conference calls to communicate with the utilities and to discuss activities since the on-site visits as well as progress and quantitative performance improvements reached by implementing the Performance Improvement Action Plans in the Business Plan. The National Expert was present at each utility during these calls to assist in the communication and in providing follow-up comments on progress. The Key Expert prepared a brief summary report after each teleconference, which was sent to the National Expert for translation prior to submitting it to the utility.

During Phase III of the project the Local National and Key Experts held operational discussions with the participating utilities through e-mails in order to develop analytical and project-planning tools that would be utilized in the mid-term. Examples include collection reporting, analysing large customers, designing an investment proposal for a SCADA system.













"ON THE JOB" TRAINING IN RWC PRISHTINA

FINAL WORKSHOPS

Two Joint Workshops with the participation of all fifteen water utilities in Phase III were organized in Chisinau, Moldova and Prishtina, Kosovo. The Joint Workshops were organized as a full day event, allowing enough time to not only share the improvement programs that each utility has been implementing, but also to provide opportunities for networking between the participating utilities. Each utility presented their unique experience with the project highlighting the areas where improvements were put in place. The main goal of these workshops was to facilitate the formation of a peer working group amongst the utilities.

PROJECT KEY RESULTS

Active Participation by the Utility Staff

The trainers adopted participatory methods, facilitation and creative techniques during the training events to stimulate awareness, creativity and engagement of the participants. The training was based on an interactive approach and the trainers and presenters encouraged the participants to interact and share thoughts, ideas and beliefs and to discuss these in detail. This approach was found to be beneficial for all participants, as their active participation enhanced knowledge exchange and transfer and assisted in the overall achievement of the aims and goals of the project.

Improved Analytical Skills of Utility Staff

Each participating utility was requested to bring their own laptop to use during the practical exercises and

'hands-on-training' to populate and use the Business Planning Workbook Model. The Project Team developed a Utility Business Plan Template that served as a guide to the National Experts and water utility staff on how to input text and fill out the table formats leading to a customized Business Plan. In addition, both oral and written guidance and instructions were given by the Project Team to the staff of the participating utilities and the National Experts with regard to preliminary work that needed to be done by the utility staff in preparation of the training sessions in order to maximize the benefits of the training course by using actual utility data and improving the skills of the participants in collecting, evaluating and analysing relevant information and data.

It was found to be of great importance that utility participants essentially complete their Business Plans during the training sessions, in particularly











Regional Water Company "Hidrodrini

The RWC "Hidrodrini", Peja actively participated in the Business Planning and Commercial Efficiency Program. Through this activity, specific measures in the area of cash collection and improved meter-management for high-consumption users were identified. Usage of a new management tool called the Aged Debt Report was demonstrated, so that by using this tool, the utility could analyze outstanding debt more effectively.

The consulting team provided the format of this tool and facilitated its introduction with examples. Outsourcing of debt collection was analyzed and recommendations were given on how this can be structured contractually. Regarding meter management, Hidrodrini provided a list of its largest consumers and an analysis was conducted on what type of measures could be undertaken for tackling meter under registration.

completing the Excel Workbook that quantifies the Business Plan itself and relating this to Improvement Plans of Commercial Efficiency activities. Working through the National Experts, the Project Team directed the participants from each utility to make specific preparations before arriving at the training session i.e. to prepare and have data and information available in order to complete the required data sheets, such as Staffing List and Analysis, Water Demand Analysis and Forecast, and Operations and Maintenance (O&M) Budget Worksheet which would lead to the development of Performance Improvement Action Plans.

The project succeeded in developing the analytical skills of participating utility staff who found to be very serious and enthusiastic in taking this opportunity to develop a five-year Business Plan, by considering and developing a Management Team consensus for the implementation of sound utility management concepts and practices. In general, the participants showed eagerness to learn, enthusiasm and commitment to understand and learn the concepts of business planning and commercial efficiency.

Apa Canal Orhei

Orhei Water Utility staff participated in the Business Planning and Commercial Efficiency Program. The Business Planning process included a thorough examination of the current conditions of the water supply and sewerage services, including a detailed analysis of the capabilities, dynamic forces and challenges that impact the provision of water supply and sewerage services in the service area.

The implementation of the Business Plan will require the commitment of all the utility employees and support of the municipality. The input of each member was strongly appreciated and the commitment in implementing this business plan will ensure continued success of the utility, both in terms of improving operations and in delivering better services to all clients.

VIK Cetinje

In close coordination with the Consultant Team, the Water Utility Cetinje identified strategic commercial areas that needed to be addressed for further improvement. These areas include debt collection management; procedures for detection, monitoring and management of water consumption leading to higher commercial efficiency; and procedures to identify and reduce commercial losses.

The Utility Team worked closely with the Consultant to develop Commercial Improvement Action Plans.

Presentation of equipment within this scope of interest and notification for debt collection and warnings for customers were presented by the experts of Budapest Waterworks.











Establishment of adequate Commercial Procedures in the areas of Meter Management, Customer Billing and Collection, Complaint Management

In organizing the training and working sessions, the Project Team's focus was to build the participating utility senior management staff's awareness of the importance and necessity of developing a comprehensive commercial approach for their utilities, and the need to be realistic when defining strategic goals and performance targets.

Commercial Efficiency was found to be most effectively addressed on the basis of the following two key elements:

- 1. The Commercial Cycle, which is the "hard" element of commercial management (i.e. meters, readings, billing and collection)
- 2. The Customer Service, which is the "soft" element (i.e. call centres, complaint-handling units, websites, etc.).

The "Commercial Cycle" approach followed is best demonstrated schematically in the figure given below. To tackle challenges in the Commercial Cycle, the participating utilities were equipped with practical decision-support tools such as periodic collection reporting, or the analysis of large customers and demand profiling methodology. These are to be applied in the working processes of the companies.

As a first step in approaching the common challenge of high levels of Non-Revenue Water (NRW), all the companies in Moldova were assisted to create a water balance according to the International Water Association standard using specialised software (EasyCalc). First measures to increase utility income that have no or low costs were implemented. Examples for these measures are rotating the meter readers, checking the connections with zero or low value, field inspections for finding illegal connections, sending the warnings for debtors, and suspending the service for bad payers. Most of the Moldovan companies started a campaign of replacing current water meters with significantly more accurate ones.

- 1. Meter Installation and Testing
- 2. Meter Reading
- 3. Data Entry and Billing
- 4. Collection

FAILURE IN ONE STAGE = FAILED PROCESS

Identified Issues among Water Operators

- Under-registration
- Ageing
- Blocking & manipulation
- Access to meter
- Real vs. fake reading
- Illegal connections
- Quality of data
- Estimation rules
- Control mechanisms
- Willingness to pay
- Tracking receivables
- Control over clients

Scope of Measures to Address the Issues

- Demand profiling & higher class meters
- AMR
- Flow reducers
- PDA-tracked realtime readings
- Daily schedules
- Pipe tracing
- Implement estimation rules
- Exception handling process
- Aged debt report
- Remotely controlled stop valves
- External collection











CHALLENGES, LESSONS LEARNED AND FUTURE RECOMMENDATIONS

The business planning process assumes a certain management climate within a water utility in terms of the way that people relate to each other. The business plan templates presented to the utilities conforms to generally accepted guidelines regarding form and content. In this regard, the degree and development of teamwork and participative management that exists, and is a part of the management culture of a utility, has a serious impact on the ability of staff to contribute, discuss and share in the business planning process.

Throughout this Capacity Development Program, striking a balance between reaching a large number of utilities and coaching each on a one-to-one basis proved to be a challenge.

In addition, language was a barrier in this process as it made direct communication between International Experts and participants difficult. The Project Team has been in close contact with the relevant National Water Utility Associations and with involved utilities through the National Experts, who provided invaluable assistance in reducing language barriers.

The participatory approach chosen by the Project Team, which included the collection and preparation of performance data by the utilities between workshops, encouraged the participants to be engaged in the Program and yielded very satisfactory results. The general managers ensured an effective teamwork: economists were assisted by technical staff in the elaboration of the business plans focused on measures related to increase the commercial efficiency.

The following is a list of key challenges identified by utilities operating in Western Balkans which if tackled efficiently and effectively would improve the Commercial Efficiencies of the utilities:

- Poor metering and inadequate metering policies
- Data handling inaccuracies
- Unsatisfactory bill collection
- Insufficient income due to low water tariffs
- Lack of proper maintenance

- High Non-Revenue Water attributed both to Physical and Commercial Losses, more than 60% of System Input Volume
- Inaccurate population and performance data
- Highly deteriorated transmission and/or distribution network needing major repairs or replacement

Similarly, a list of key challenges was identified by utilities operating in Moldova:

- High Non-Revenue Water attributed both to Physical and Commercial Losses
- Insufficient income due to low water tariffs
- Poor metering and inadequate metering policies
- Lack of proper maintenance
- Data handling inaccuracies
- Inaccurate population and performance data.
- Deteriorated network in urgent need of replacement
- Lack of finances

Future Recommendations

The participating utilities have identified the following areas they would be interested in being more involved in to enhance their commercial and operational efficiency.

Focus on large customers

The need to place a specific focus on highconsumption users was clearly recognized. As a first step, an understanding of the largest consumers is needed based on billing records, leading on to a more detailed analysis of consumption profiling, meterreading frequencies, etc. Most participating utilities agreed on the need to set up dedicated small teams to tackle this topic. Such teams would handle both











technical (meter sizing & calibration, Automated Meter Reading (AMR), link between revenue and bulk metering, etc.) and commercial (customized billing and collection practices) topics. While there is an appreciation of the need to undertake these activities, the participating utilities agreed that tailored support is needed to implement such practices.

Strengthening the collection process through improved analysis and reporting

Understanding and managing the collection process is a long-term and data-intensive process. Within the project some of the participating utilities introduced the so-called ATB (Aged Trial Balance) reporting approach to better classify debtors and to introduce specific measures for each category. Within this project, only a demonstration of the approach could be provided and the utilities agreed that it would be beneficial to integrate it into their routine. This integration would require some modifications of the reporting modules of their billing systems and dedicated monthly analysis.

Linking commercial, network operations & IT functions

During the project it became evident that 'strengthening commercial efficiency' cannot be a stand-alone project. It integrates technical, administrative and IT functions, with the most evident areas being:

- District Metering Area (DMA)-level network management - approach for reduction of commercial losses: typically, as a result of tackling limited meter registration and reduction of illegal connections a company increases its billed volumes. These measures are best planned and implemented at a DMA level so it makes sense to integrate commercial efficiencies and overall NRW reduction measures (examples: DMA-level balances & assessment of commercial/physical losses ratio);
- Establishing a link between GIS and billing system: a thorough commercial management approach requires the company keeping a good record of its house connections, revenue meters and customer status. A systematic recording system has to link geographical and asset-related information (such as the location of a house connection and a meter box, age and type of meter, etc.) with customer data (customer account, billing records, etc.)

AMR & PDA applications for the purposes of meter-reading and dynamic control of both clients and customers

Other Areas

While the focus of the current project is framed as 'commercial efficiencies', the site visits demonstrated that the participating utilities would significantly benefit from other projects, particularly in the area of 'operational efficiencies'. The areas that stand out are SCADA (an operational efficiency software package), pressure management, energy efficiency, tariffs and affordability. Further topics that were discussed included hydraulic modelling and application of prepaid meters.

Combining a set of measures within a single utility

One of the key principles that this project advocates for is that the commercial cycle of a company should be looked upon and managed as a cycle - a chain of sub-processes. Both in the day-to-day management of these activities and during implementation of project-based tasks it is suggested that a sequence of measures should be undertaken.

Some participating utilities decided to focus on a single area of estimated high impact. Others picked a combination of recommendations for parallel implementation.

A good example is Hidrodrini, Peja Water Company, which was well equipped with a sound information systems and various analyses and drill-downs from it were easily available. The company decided to implement the following set of measures:

- Analysis of large customers with the intention to consider higher-accuracy meters for specific clients like a beer factory, hospitals and a prison;
- Implementation of aged-debt reporting and, specifically for Hidrodrini, matching debt related data with the GIS system;
- Segmentation of debt and consideration of outsourcing a portion of debt collection on a pilot basis;

Such an integrated process demonstrated that even within a pilot project it is feasible to combine such complementary tasks that result in integrated approach on commercial management.











CONCLUSIONS

More effective and efficient control of water supply and wastewater systems are necessary in today's societies where increasingly high performance standards are being expected. Following initial major investments in the construction of a water supply and wastewater system, successful management of this high cost infrastructure is required in order to operate and to deliver the required service as cost effectively as possible. The management of commercial activities of a utility is an integral part in achieving this goal.

Expanding service networks without addressing commercial efficiency improvements through proper business planning leads to a cycle of waste and inefficiency. The level of business planning and commercial efficiency in water utilities varies between countries, regions and utilities, and is affected by a number of factors such as the management commitment, staff capacity, operational practices, level of technology and expertise in controlling customer billing, as well as other local factors.

This project reflected on international best practice relating to business planning and commercial efficiency performance measures and indicators. A comprehensive Business Planning Training Course was designed and delivered with the objective of providing the participating water supply and/or wastewater utilities with the necessary information and tools to develop a Five-Year Business Plan. By

using the creativity and ideas of the utilities' senior management, the process of business planning helped in transferring solutions to management problems onto paper, as commitments for improvement of the utility's overall performance.

The Project Team's international and national experts supported the participating utilities in establishing a business plan and performance improvement plans focused on commercial efficiency.

The participatory approach adopted by the experts encouraged the participants to be involved throughout the Project and to understand the practical application of their proposed performance improvement plans. The presence of National Experts during the Project was helpful and constructive as they acted as a link between the trainers and the participants.

The Project Team was in close communication with the utilities directly and through the National Experts in order to maintain momentum and assist the utilities to achieve the greatest possible progress in business planning and commercial efficiency improvements during the duration of the project as well as setting the procedures for continuing with these activities after the completion of the project, which was described by a participating utility as "an excellent opportunity to set the foundation for a sustainable improvement of the operational efficiency of the utilities".

Summarized Key Lessons

- ▶ The commercial cycle is a vital core function of a utility company it is the sales and marketing function of a profit-driven company;
- Commercial and customer-service processes, even for a small or mid-size utility, are very dataintensive processes. Design of information systems and analytical reports are of high priority.
- Technology brings new approaches to managing metering, billing and collection. Utilizing these approaches is of great importance.
- Failing to plan is to plan failure.







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