

PROJECT INFORMATION SHEET

WATER AND WASTEWATER UTILITY INVESTMENTS AND PRICING

REFORM DEMONSTRATIONS

INTRODUCTION

Reducing nutrient and toxic pollution from municipal wastewater is a key objective of the UNDP-GEF Danube Regional Project (DRP), and one of the goals of regional and municipal water and wastewater utilities (MWWUs) in the Danube River Basin (DRB). However, advanced treatment of wastewater is frequently seen as a low priority and/or prohibitively expensive as the MWWUs, their owners and their customers have other goals as well. These goals usually include the provision of good quality drinking water and reliable service, collection and treatment of wastewater, maintaining positive financial balances and charging reasonable prices. In general terms, MWWUs must set their priorities while constrained by available local resources.

There is often considerable scope for MWWUs in the lower Danube Basin to organize their operations and provide service more efficiently. An earlier information sheet outlined some of the tariff and related management and policy reforms that, when properly implemented, would improve the economic efficiency of MWWUs.¹ Furthermore, when MWWU operators demonstrate good, farsighted management, MWWU owners and customers will be more likely to accept higher tariffs as part of the price for having a modern, economically sustainable and environmentally protective public water system. Both developments will help make advanced wastewater treatment by MWWUs more attractive and feasible.

DEMONSTRATION PROJECTS

To simultaneously test these ideas and reform proposals, the experiences of two MWWUs that are in the midst of extensive reform and investment programs were examined. These two systems are Vodovod i Kanalizacija d.o.o. (ViK Karlovac), in Karlovac, Croatia serving a local population of about 60,000, and S.C. APA CANAL 2000 SA, also known as Apa Canal Pitesti (ACP), in Pitesti, Romania, serving a local population of 225,000. In collaboration with their staffs, the experiences, current status and prospects of these MWWUs were assessed including: the issues they faced since

¹ Danube Regional Project. "Project Information Sheet: Reform Proposals". The Project on Water and Wastewater Utility Investment and Pricing. Undated. More elaboration on these reforms and the process by which they were developed may be found on the DRP website - http://www.undp-drp.org/drp/activities_1-6_-7_tariffs_and_charges.html.

2000; the tariff and other reforms they have adopted; the investment programs they are putting in place; and their plans for future reforms and investments.²

To help with this examination, the ASTEC model was used to simulate the impacts of past and future reform activities involving: cost reductions; revenue enhancement, including tariff increases; and external assistance.³ Regarding the latter, both ViK Karlovac and ACP had applied and been approved for Instrument for Structural Policies for Pre-Accession (ISPA) grants from the European Union.

SELECTED RESULTS

The following summary assessment of tariff and related management and policy reforms in the two demonstration MWWUs is presented with the note that conclusions must be regarded as preliminary. It will take years before the effectiveness of the reforms can be fully gauged. Even then, one is evaluating not just the reform principles but their implementation in the context of particular MWWUs and many related changes, including the ISPA grant process.

COST-SAVINGS INVESTMENTS: FEASIBLE AND IMPORTANT.

ACP had the more advanced cost control and cost-saving investment programs of the two demonstration MWWUs. Without these programs, net revenues at ACP would have gone from a modest surplus to a loss of roughly €1.2 million in 2005. At ViK Karlovac, future cost-savings were evaluated hypothetically with the result that a realization of modest cost savings would provide an important buffer to protect ViK Karlovac and its customers from the various financial risks they have undertaken with their current investment program.

TARIFFS LEVELS: RAISED AND RE-STRUCTURED.

Real tariff increases from 2004 to 2006 were substantial for ACP (82% and 72% for water and wastewater respectively) and modest for ViK Karlovac water services (7%-9%) but substantial for ViK Karlovac wastewater services (90%). These increases helped finance cost-saving investments and productivity improvements as well as support staff, studies, financing and expenses associated with the ISPA application and implementation. Without attendant tariff increases, ACP would have had a 60% budget shortfall in 2005.

Both MWWUs began the process of restructuring their tariffs to be more 'cost-reflective' (i.e. customers, whose service costs more to provide, pay higher tariffs). ACP began adjusting industrial wastewater tariffs to reflect the effluent quality of industrial customers – and very roughly – the cost of associated treatment. Pitesti water and wastewater tariffs were adjusted to reflect the changing relative cost of providing that particular service. ViK Karlovac adjusted tariffs to start reducing cross-subsidies from water to wastewater services and from commercial to residential customers. Both wastewater customers and residential customers are now required to pay tariffs that better reflect the cost of their service. Moreover, ViK Karlovac also started to design fixed monthly water charges, which would provide a more equitable tariff design and contribute to a stabilized revenue stream.

² Reports by Morris and Kis on the two demonstration projects have been completed and are also available on the DRP website (see above).

³ ASTEC stands for "Accounts Simulation for Tariffs and Effluent Charges". This spreadsheet model may be used to evaluate the financial and operating consequences of water system investment programs and policy changes simultaneously with changes to tariff levels and structures.

SERVICE UP-GRADES: SIGNIFICANT LOCAL COMMITMENT BUT EXTERNAL GRANTS ARE NECESSARY FOR HIGHER LEVELS OF ENVIRONMENTAL PROTECTION.

Productivity increases, cost-saving investments and tariff increases all played an important role in supporting past service up-grades at the two MWWUs. These initiatives have been over-shadowed, however, by major investment projects that are just now getting under way. ViK Karlovac is up-grading network operations and, instead of discharging untreated sewerage into a local river, building a new, advanced wastewater treatment facility at a total initial cost of about €37 million. ACP is rehabilitating its out-of-date drinking water and wastewater treatment plants and up-grading many parts of its networks, especially the oldest portion of its sewerage network, at a total initial cost of €45 million.

The breadth and extent of these initiatives, however, depend critically on external (EU-ISPA) funding. The ISPA share of the total anticipated investment cost of these projects is not known precisely, but probably accounts for 50% or more of the costs. While it is difficult to say what would have happened without ISPA aid, it is unlikely that such large investments would have been undertaken or that planned wastewater treatment would have been as intensive.

SENIOR MANAGEMENT: LEADERSHIP IS CRITICAL.

While the demonstration project sample is small, on numerous occasions, in both the demonstration projects and in other water systems, the critical role of senior management could be observed. Senior management was instrumental in promoting, and then realizing, a wide variety of reforms, including many of those encouraged as a result of early work on the project. These managers appear to pursue these initiatives out of a commitment to good public service and pride in a job well done. Certainly, any tangible rewards for these efforts that could be observed seemed to be small compared to the large amounts of extra time and energy dedicated to seeing that policy reforms and associated investment programs were approved and well carried out.

EU GRANT PROCESS: A MIXED BLESSING

In addition to providing financial aid, the ISPA process may legitimately take major credit for the current tariff and related management and policy reform programs of the demonstration MWWUs. Some of the key tariff and operating reforms encouraged by the DRP project were included as conditions attached to associated loan or grant agreements. The process also appears to have some downsides for both reform principles and MWWU customers:

- > The grants have typically been awarded on the implicit condition that loan financing be provided by preferred vendors. This arrangement by-passes an open bidding process and possibly more advantageous loan conditions available elsewhere.
- > The tariff increases mandated by the process may have been excessive in the case of ACP. After the peak in investment expenditures around 2009 the MWWU is likely to have significant net revenues. At the same time, future customer expenditures on water and wastewater services will be over 5% of median income for a representative household in a centrally metered apartment block and over 6% for a representative pensioner.
- > The investment programs introduced were sometimes done without fully exploring the trade-offs between costs and goals from the MWWUs' perspective. In the case of ViK Karlovac, the cost-savings from reducing distribution losses do not seem to justify significant investments.

CONCLUDING OBSERVATIONS

All of these reports and tools are or will shortly be available on the 'Municipal Water Supply and Wastewater' section of the DRP website: Within the two MWWUs examined, the reforms adopted and the results achieved offer some modest optimism that tariff and related management and policy reforms, when adopted as a package and thoughtfully implemented, can free local resources sufficient to sustain long term operations at passable service levels. However, investment in advanced treatment of wastewater, especially in poorer DRB communities and under adverse technical conditions, appears to be beyond local resources even at a well-managed MWWU.

Regarding particular tariff designs and related reforms, the variations in technical and institutional conditions encountered in these cases are sufficient to alert one to the danger of easy generalization. While the general principles of reform seem to be validated by the demonstration projects, the best designs and implementation vary with the MWWU.

At the same time, the project strongly encourages MWWUs to review and seriously consider undertaking of the elements of the tariff and related reform program outlined in Phase 1 of the project. In support of such an effort, further recommendations include:

- > MWWUs establish a supporting data base and independent analytical capabilities that allow them to more fully evaluate investment options and tariff designs in advance.
- > National, international, and local support for a program of cooperation among water system managers and owners so that the experience of ViK Karlovac and ACP can be preserved and effectively transferred to those MWWUs just beginning to confront the challenges posed by the introduction of major investments and tariff and related reforms.

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