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PROJECT PERFORMANCE ASSESSMENT REPORT

BOSNIA AND HERZEGOVINA

WATER, SANITATION AND SOLID WASTE URGENT WORKS PROJECT
(TF-24032)

December 29, 2003

*Sector and Thematic Evaluation Group
Operations Evaluation Department*

Currency Equivalents (annual averages)

Currency Unit = Deutsche Mark (DM) until 1997; Convertible Mark from 1998

1996	US\$1.00	DM 1.51
1997	US\$1.00	DM 1.73
1998	US\$1.00	KM 1.76
1999	US\$1.00	KM 1.84
2000	US\$1.00	KM 2.12
2001	US\$1.00	KM 2.19
2002	US\$1.00	KM 2.23
2003 (July)	US\$1.00	KM 1.68

Abbreviations and Acronyms

BiH	Bosnia and Herzegovina
CI	Cooperazione Italiana
EC	European Commission
EU	European Union
FSFRY	Former Socialist Federal Republic of Yugoslavia
GDP	Gross domestic product
ICR	Implementation Completion Report
IDA	International Development Association
IMG	International Management Group
MAWMF	Ministry of Agriculture, Water Management, and Forestry
OED	Operations Evaluation Department
PIU	Project Implementing Unit
PPAR	Project Performance Assessment Report
RS	Republika Srpska
SRP	Sector Recovery Program
TF	Trust Fund
USAID	United States Agency for International Development
VBH	Vodopriveda of Bosnia and Herzegovina

Fiscal Year

Government: January 1 – December 31

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OED Mission: Enhancing development effectiveness through excellence and independence in evaluation.

About this Report

The Operations Evaluation Department assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, OED annually assesses about 25 percent of the Bank's lending operations. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons. The projects, topics, and analytical approaches selected for assessment support larger evaluation studies.

A Project Performance Assessment Report (PPAR) is based on a review of the Implementation Completion Report (a self-evaluation by the responsible Bank department) and fieldwork conducted by OED. To prepare PPARs, OED staff examine project files and other documents, interview operational staff, and in most cases visit the borrowing country for onsite discussions with project staff and beneficiaries. The PPAR thereby seeks to validate and augment the information provided in the ICR, as well as examine issues of special interest to broader OED studies.

Each PPAR is subject to a peer review process and OED management approval. Once cleared internally, the PPAR is reviewed by the responsible Bank department and amended as necessary. The completed PPAR is then sent to the borrower for review; the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the OED Rating System

The time-tested evaluation methods used by OED are suited to the broad range of the World Bank's work. The methods offer both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. OED evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (more information is available on the OED website: <http://worldbank.org/oed/eta-mainpage.html>).

Relevance of Objectives: The extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). *Possible ratings:* High, Substantial, Modest, Negligible.

Efficacy: The extent to which the project's objectives were achieved, or expected to be achieved, taking into account their relative importance. *Possible ratings:* High, Substantial, Modest, Negligible.

Efficiency: The extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. *Possible ratings:* High, Substantial, Modest, Negligible. This rating is not generally applied to adjustment operations.

Sustainability: The resilience to risk of net benefits flows over time. *Possible ratings:* Highly Likely, Likely, Unlikely, Highly Unlikely, Not Evaluable.

Institutional Development Impact: The extent to which a project improves the ability of a country or region to make more efficient, equitable and sustainable use of its human, financial, and natural resources through: (a) better definition, stability, transparency, enforceability, and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Institutional Development Impact includes both intended and unintended effects of a project. *Possible ratings:* High, Substantial, Modest, Negligible.

Outcome: The extent to which the project's major relevant objectives were achieved, or are expected to be achieved, efficiently. *Possible ratings:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry and supported implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of the project). *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements, towards the achievement of development objectives and sustainability. *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

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Principal Ratings

	<i>ICR*</i>	<i>ES*</i>	<i>PPAR</i>
Outcome	Satisfactory	Satisfactory	Moderately Satisfactory
Sustainability	Unlikely	Unlikely	Unlikely
Institutional Development Impact	Modest	Modest	Modest
Bank Performance	Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible operational division of the Bank. The Evaluation Summary (ES) is an intermediate OED product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
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Preface

This is a Project Performance Assessment Report (PPAR) on the Water, Sanitation and Solid Waste Urgent Works Project (TF-24032), approved for a *Trust Fund for Bosnia and Herzegovina* credit in the amount of US\$20.0 million on April 1, 1996. The credit closed on June 30, 1999, fully disbursed and on schedule.

This report is based on the Implementation Completion Report (ICR), dated June 29, 2000, and prepared by the Europe and Central Asia Region, the appraisal documents, credit documents, project files and discussions with relevant Bank staff. An Operations Evaluation Department (OED) mission visited Bosnia and Herzegovina in June 2003 to discuss the effectiveness of Bank's assistance with the government, the project implementing agencies, and a sample of recipient municipalities. The cooperation and assistance of central government officials, management and staff of the Vodoprivedas of Sarajevo and Mostar, and other interested parties, including the Cooperazione Italiana (the Italian aid-agency) that cofinanced the project, are gratefully acknowledged.

The assessed project was the first step in the international reconstruction effort to improve the water supply, sanitation, and solid waste service in Bosnia and Herzegovina after the war of 1991–95. The project focused on a number of communities in the Federation of Bosnia and Herzegovina. Its concept included rehabilitation and reconstruction of water supply, sewerage, and solid waste facilities to achieve immediate service improvements and to remove the potential risks to public health. It also initiated necessary institutional changes to enhance long-term sustainability of the sector. In addition, the project was to prepare plans and designs for major rehabilitation and expansion projects.

Following standard OED procedures, this draft PPAR was sent to the borrower and the cofinancier for comments before it is finalized. No comments were received from the government. In accordance with the Bank's disclosure policy, the final report will be available to the public following submission to the World Bank's Board of Executive Directors.

Summary

The **Water, Sanitation and Solid Waste Urgent Works Project** was approved for a *Trust Fund for Bosnia and Herzegovina* credit in the amount of US\$20.0 million on April 1, 1996. The credit closed on June 30, 1999, fully disbursed and on schedule.

The assessed project was one of the first emergency reconstruction efforts in Bosnia and Herzegovina (BiH) following the signing of the Dayton peace accord in December 1995. The project was conceived as the first phase of a three-phase sector recovery program (SRP). It covered immediate (urgent) works to restore water, sanitation, and solid waste service in a number of municipalities within the Federation of Bosnia and Herzegovina that were most at risk from public health point of view. A follow-up project (the second phase), to be prepared under the present project, was envisaged to cover major rehabilitation needs. The third phase of SRP was to cover extensive expansion of the service facilities nationwide. The project concept was that the Bank would implement and coordinate the overall program with additional funding coming from a number of international and bilateral agencies.

This assessment asserts that the project achieved its central goal to restore water, sanitation, and solid waste service in the participating municipalities. The project was an emergency operation; therefore, its institutional objectives were defined only in broad terms. Despite this flexibility, institutional development achievements were quite limited in the components implemented by the Bank. During project implementation, the European Union (EU) initiated the development of the national level institutional reform. The pooling of donor funds did not occur as anticipated; only the *Cooperazione Italiana* joined the Bank in the cofinancing of this project. The anticipated follow-on project under SRP did not materialize, and, as of June 2003 all aid agencies were financing and implementing independent ad-hoc interventions.

The project achieved most of its service goals in each of the 26 participating municipalities, but there were shortcomings in its equally important institutional development goals. Its overall outcome therefore, is rated **moderately satisfactory**. Achievements of the institutional goals were not substantive enough to justify a higher outcome rating. The institutional development impact was rated **modest**. Sustainability is rated **unlikely**, considering that it is taking BiH longer than anticipated to recover from the emergency, and achieve a level of cost recovery that would permit adequate maintenance and up-keep of the facilities over the next several years. Although there is much work to be done in terms of increasing the efficiency of operations, some of the more advanced municipalities demonstrated real improvements and achieved further system expansions after project completion. Bank performance and borrower performance are both rated **satisfactory**.

Two main lessons emerge from this project experience.

- **In an emergency reconstruction program, it is essential to have a workable coordination system in place to avoid duplication of effort and inconsistent applications of policy that lead to different treatment**

regimes. The objectives of this project were not attained at the planned level, as most funding aid-agencies opted to work on their own (instead of contributing to the agreed upon SRP). The use of differing sets of policy and procedures caused confusion during project implementation, and unplanned overlaps in donor activities led to a reduction in the overall program scope. In the end, lack of coordination weakened sector reform activities, and prevented the phased implementation of the rest of the SRP operations within the anticipated timeframe.

- **The rapid post-emergency appraisal of operations sometimes requires flexibility, but it is still necessary that key components be fully defined within the project implementation period.** In this case, institutional strengthening should have included well-specified and realistic activities that would have assisted sector agencies to improve operational efficiency in incremental steps. In the midst of hectic repair and rehabilitation efforts, institutional development measures such as reducing unaccounted water, improving efficiency and skills of staff and improving collection of bills, received lower priority. A stepwise package of the most urgent measures should have been defined in the project documents to ensure that the various entities could take needed first steps to return to normal operations after the crisis.



Gregory K. Ingram
Director-General
Operations Evaluation

Background

1. Bosnia and Herzegovina (BiH), a constituent republic of the Former Socialist Federal Republic of Yugoslavia (FSFRY) became independent in 1992. With the Dayton peace settlement ending nearly five years of war, BiH with a total population of 4.1 million now comprises two entities: the Federation of Bosnia and Herzegovina (Federation), and the Republika Srpska (RS). The State of BiH Bank operations in BiH have been guided by a Country Assistance Strategy¹ (CAS) that highlights the following key medium-term challenges: strengthening of governance and public sector management, fostering private sector led growth, building social sustainability, and completing reconstruction.

2. The latest CAS progress reports a marked slowdown in GDP growth from 4.5 percent in 2000 to 2.3 percent in 2001. This was as aid flows declined, structural reform took place more slowly than anticipated, and the supply-side response was weak. Since 2001, BiH State and Entity governments have worked more effectively together than any time since the Dayton agreement. Economic reform has accelerated in some areas and important steps have been taken in nation building and in strengthening institutions and governance. Starting in 2003, GDP growth rate is projected to increase significantly, but financial self-sustainability may not be achieved until the end of this decade.

The Water Supply and Sanitation Sector

3. Before the project, overall water sector management in BiH was entrusted to the Federation Ministry of Agriculture, Water Management and Forestry (MAWMF).² Implementation of sector policies and enforcement of legislation and regulations was the responsibility of the Federation water authority (Vodopriveda, VBH), headquartered in Sarajevo and with its main regional office in Mostar (VBH managed the implementation of this project). Municipal service companies (*vodovods*) had the primary responsibility to provide water supply, sewerage, and solid waste service at the municipal level. Piped water supply service coverage was high (at 90 percent of population served) in most urban areas and 24-hour service was common. The sewerage service coverage was lower, at 70 percent in the urban areas. Except for Sarajevo, sewage treatment was not comprehensive as the most common treatment was just screening and grit-removal. The un-served population relied on septic tanks. Solid waste collection was widespread, but few landfill sites were properly designed and operated.

4. The quality of municipal service in BiH deteriorated sharply after the conflict began in 1991. This was partly the result of the sector losing a significant amount of qualified staff, both at the managerial and operational levels (because many chose to leave the country or found more lucrative jobs in the private sector). Severe damage caused by the war and the lack of maintenance funds further contributed to this deterioration, leading to reduced service hours, increased unaccounted water, leaky sewers (and related pollutions risks), and irregular solid waste collection.

1. The second CAS on BiH, dated June 14, 2000; its latest progress report is dated October 15, 2002.

2. The institutional set-up of the water sector remained largely the same as before the conflict.

Bank's Role

5. The World Bank had a key role in the overall reconstruction program in BiH; the activities included donor coordination, seminars, program preparation, and funding of selected works. The current water sector-related goals in the CAS are to help BiH address municipal, environmental, and public utility problems and contribute to improving the capacity in these areas by supporting sound utility practices and pricing policies; all this is based on reforming these institutions into commercialized agencies.

6. The Bank's involvement in the water sector projects began just after the Dayton agreement (which covered, *inter alia*, post-conflict and urgent reconstruction efforts). The project covered by this evaluation was the first significant effort in the water sector. It was prepared for funding under the Board-created US\$150 million Trust Fund for BiH (TFBH) provided under Resolutions No. 96-1 and IDA 96-1. The Resolutions stipulate that the funds are to be used for work related to emergency reconstruction.

7. The Bank is currently reviewing its sector strategy and is in the process of preparing a new mid-term program covering the years 2004–07.³ The new strategy will recognize the Bank's perceived comparative advantage in terms of program design and sectoral competencies. It directs the new focus on achieving fundamental institutional transformation and a high degree of financial leverage at the utility level. Particularly for the water sector, the draft strategy points to prospective engagement in upgrading water supply systems in secondary municipalities and in supporting the design and implementation of a State level water regulator.

Project Objectives

8. During the appraisal process, there was an international consensus that full recovery would take time. A phased sector recovery program (SRP) was therefore created wherein critical needs for immediate improvements were to be covered by this project. Its development objectives were defined in the appraisal documents as follows: *address most immediate needs by (i) taking selected actions to improve service quickly and to remove risks to public health; (ii) starting the preparation of works that would take more time to implement; and (iii) starting to make institutional changes that would result in the long-term sustainability of the sector.* The original objectives were not revised during project implementation.

Project Components

9. The project was designed as the first step of a phased SRP and included five parts:
- Part A: Supply of equipment and materials (US\$14.7 million equivalent); this part was fully financed by EU to provide the necessary equipment and materials for

3. Bosnia and Herzegovina: Infrastructure and Energy Strategy, Draft Main Report, dated August 14, 2003.

those municipalities (estimated at appraisal to number 40 in total)⁴ that could carry out the necessary repairs with their own maintenance personnel.

- Part B: Urgent works for the provision of water supply, sanitation and solid waste services for municipalities (US\$47.0 million equivalent); this part was to provide the necessary assistance for the rehabilitation of war damage in water and sewerage systems and in solid waste service in about 20 municipalities in the Federation.⁵ This included, inter alia, the major cities of Sarajevo, Zenica, Tuzla, Travnik and Bihac. The works to be undertaken consisted of rehabilitation of water mains, well fields, pumping stations and sewer pipes, testing and repair/replacement of water meters, and investigation and replacement of leaking service connections.
- Part C: Emergency development plan for water management (US\$0.6 million); this part was to prepare an inventory of water supply and sewerage improvements serving the 70 municipalities in the Federation, assess needs, and recommend solutions with a prioritized program of projects.
- Part D: Institutional strengthening (US\$2.0 million); this part was to (i) comprise training at the entity and local levels (twinning) and (ii) financing of incremental operating costs for VBH and participating municipalities.
- Part E: Preparation of a follow-on water supply, sanitation, and solid waste rehabilitation project (US\$5.0 million), i.e., second phase of the SRP; this part was to comprise final design and procurement/contract documentation for the second project that would consist of high-priority projects identified under Part C above.

10. Parts B through E were included in the project within the concept that the World Bank would coordinate and administer funding inputs from a number of bilateral and other funding agencies to supplement its own funding share of US\$20.0 million. At project appraisal, two bilateral cofinanciers, namely the governments of the Netherlands and Austria, committed funding of about US\$5.0 million in total. The remaining US\$30.3 million was expected to come from other, but still uncommitted, funding agencies at the time of appraisal.

4. Formal requests for funding support had already been received before project appraisal and 12 municipalities had been selected into the first batch.

5. This was the original scope for the Bank funded part; the total number of municipalities in the Federation is 70.

Implementation

11. The project concept, under which the Bank would coordinate, and administer all the cofinanced components, did not materialize at the planned level.⁶ Joint funding was limited to the Bank and the *Cooperiazone Italiane* (CI), the only one of all the original cofinanciers to actually participate.⁷ Actual project costs totaled US\$25.3 million⁸, only 36 percent of the anticipated project costs of US\$70.0 million. The balance of the project, Phase I of SRP, was implemented under various bilateral funding agreements outside the Bank project and, thus, also outside the purview of this OED evaluation. Consequently, the overall scope of all the activities undertaken and their total costs are not available.

12. The ICR explains that the project, within the part financed jointly by the Bank and CI, covered rehabilitation and reconstruction needs in 26 Federation municipalities instead of the 20 as was originally planned. This was made possible by adjusting the scale of works overall in individual municipalities as well as by the slightly increased amount available in local currency due to its fluctuations against the US dollar. The ICR further notes that the project quickly restored services in these 26 municipalities, but that long-term sustainability of service continues to depend on the implementation of the State Water Law (enacted in 1998 but not yet enforced). The ICR also states that Part A under the parallel EU funding was implemented satisfactorily.

13. Overall, the OED assessment agrees with the above and finds that most of the physical investment components were completed as expected. The mission interviews also confirm that the project was instrumental in quickly restoring services. The total implementation time was only slightly over two years as a large majority of the participating municipalities had their systems operational by mid-1998.⁹ The assessment further confirms that donor activities were not systematically coordinated. One informant described the coordination of funding inputs for the various project activities as “a nightmare,” because many donor agencies, once they dropped out of the coordinated scheme, opted to deal with the municipalities directly without informing VBH and other collaborating funding agencies, including the Bank itself.

14. The OED mission visited a sample of five municipalities out of the participating 26 (within both the Mostar and Sarajevo regions) to verify the quality and extent of works carried out under the project, review progress made after project completion, and assess the current effectiveness of operations. In addition, a questionnaire was prepared to provide a more in-depth perspective of the current operational status of water supply and

6. The mission was not able to clarify, and the documentation available, including the WB supervision reports, do not state any specific reasons for bilateral donors' lack of interest to join this coordinated reconstruction project.

7. The total amount provided by CI was US\$5.3 million equivalent.

8. Of this total amount, 86.2 percent was disbursed against Part B (urgent works), 2.4 percent against Part C (emergency development plan), 5.5 percent against Part D (institutional strengthening), and 0.4 percent against Part E (preparation of a follow-on project). In addition, 5.5 percent of the total amount was disbursed against Part A (supply of equipment and material), mainly funded under the EU parallel cofinancing.

9. See Aide-Memoire of the supervision mission, dated July 31, 1998.

sanitation at the municipality level. The results of the OED survey carried out with the assistance of Mostar Vodopriveda are presented and discussed in detail in *paras.* 16 and 17 below.

Results

Overall Progress and Operational Experience

15. In summary, the project achieved its main objective to restore water service in the participating 26 municipalities. This was achieved through rehabilitation (in some cases reconstruction) of existing water mains, pumping stations, water wells/intakes, service reservoirs, and treatment plants; in a few municipalities it was warranted to undertake supply capacity and distribution expansions as well. In sewerage systems, the investments chiefly included rehabilitation and repair of sewer lines. Although originally planned, no investments were made in restoring solid waste service in these communities, instead some minor flood protection works were carried out. At project completion, it was estimated that project investments resulted in improved water supplies for 300,000 people and the supply coverage had been expanded for another 60,000 people. The major setback was that the project did not result in a follow-on operation under SRP although the necessary preparation work was carried out. The main reasons for this are likely the unsettled situation in the sector at the time and the lack of coordinated effort among the donor community. As a result, the Bank developed its own portfolio of follow-on water sector projects outside the SRP concept (see para. 23 and other project data in Annex A). Mission's interviews reveal that there had been an effort by EU to reinvigorate donor coordination, but it did not achieve much (see para. 22).

16. The review mission arranged to collect operational information from all the participating municipalities on the basis of a short questionnaire. Table 1 shows the summary of the responses. The discussion of various findings follows in the paragraph below.

Table 1. Operational Indicators, Summary of Questionnaire Results, June 2003

Indicator	Average	Range
1. Unaccounted-water ratio (unaccounted water as % of total water produced)	61	19-87
2. Collection ratio (% collected of water billed)	67	20-93
3. Working ratio (total operation expenditures as % of total operation revenues)	115	100-150
4. Staff index (staff per 1000 connections)	9.7	5.0-23.0
5. Population with 24-hour supply (% of total population)	51	13-100

Notes: (i) 26 municipalities participated in the project; (ii) 17 municipalities (65%) responded to the questionnaire ; (iii) 10 municipalities (38%) provided complete information (main gaps were in the area of financial data)

Source: OED PPAR mission survey

17. The results show a large variation between the municipalities. Key features of their operational status include:

- *Unaccounted-water ratio:* Only two municipalities of the 17 have achieved an acceptable unaccounted-water ratio (19 and 22 percent) and nearly 90 percent of the responding municipalities report that the ratio is higher than 50 percent, that is, no real reduction from the pre-project level. Based on the field-visit interviews, commercial losses are assumed to make up a large part of the overall ratio. The PPAR concludes that the unaccounted-water reduction has not yet become an established and systematic part of municipal operations after the completion of initial rehabilitation and repair works within the project.
- *Collection ratio:* The collection ratio of 93 percent (in Sarajevo) was an impressive achievement, and even in six other municipalities the ratio was 80 percent or higher. On the other hand, eight municipalities collected only 60 percent or much less of their potential water revenues. Thus many municipalities could reasonably quickly improve their financial situation just by improving the efficiency of their water bill collection process.
- *Working ratio:* The generally high value of the working ratio indicates that none of the responding municipalities fully meet their operation and maintenance costs. The project documents stipulated that they should aim at the 80 percent level of operating ratio (in seven years from project completion) in order to cover some of the future investment costs as well. The above results strongly point to the importance and urgency of operational efficiency improvements to achieve this important goal.
- *Staff index:* The best staff index of 5 (two municipalities) is a commendable achievement under such difficult conditions. The next best municipalities were in the range between 6 and 8 (six of them), but nearly half of the municipalities have a staff index of more than 10. For comparison, it should be noted that effectively operated water utilities for instance in EU-countries have a staff index of 3 or less.

- *24-hour service*: This is a measure for service reliability and also an important goal from public health point of view. The survey shows that 24-hour service is available, on average, for only just over half of the total population of the responding municipalities. Full 24-hour service is available only in one municipality and in three others, 75 percent of the population enjoy 24-hour service. This result tells that little, if any, expansion of the systems has taken place in these municipalities after the project.

18. The results of the survey show that, despite the efforts of this project, its institutional impact remains quite limited. Interestingly, the results from the USAID project in ten municipalities are consistent with the findings of this survey (see *para.* 24). The mission was informed that USAID now continues with five municipalities with the main emphasis on institutional strengthening as per the earlier recommendations. That project still includes necessary reconstruction of systems, however. USAID also found that the pending enforcement of the new Water Law is a major impediment for achieving real tangible results.

Progress in Institutional Development

19. The project's institutional objectives were defined in broad terms with no specific activities designed to achieve them. Resulting institutional outputs of the project were limited to training in project design and procurement procedures at the PIU and local municipality levels. The staff of VBH-PIU gained practical on-the-job training and experience focusing chiefly on disbursement and procurement procedures. This project experience is of course now useful when PIU staff continue working in other projects — about half of the staff still works within the VBH programs, whereas others have joined the private sector.

20. The findings at the five municipalities visited during the assessment mission and the survey results discussed above confirm that real tangible institutional achievements are limited. The municipalities are, however, fully aware of, and indeed use, the operational indicators for progress monitoring and achieving more efficient performance (including financial operations). The project introduced the use of operational indicators to monitor the efficiency of operations and this new approach seems to have had some positive impact which is demonstrated by the fact that most (65 percent) of the participating municipalities are now ready and able to provide reasonably complete operational data. In some 80 percent of the municipalities the monitoring and billing systems are computerized today.

21. Although there is much work to be done to reach comprehensive service coverage and efficient operations, some of the visited municipalities demonstrated that real improvements are being achieved. During the site visits, the assessment mission was informed anecdotally of further system expansions that have been carried out in some more advanced municipalities after project completion, but it was not possible during the mission to see records that adequately document the full extent to which this is happening.

22. *Other ongoing efforts to improve sector performance.* Although the initiation of long-term sector development activities was one of the project objectives, the Bank focused on the utility-level institutional aspects and achieved some relevant, but limited results in this project. The Bank, among other funding agencies, encouraged EU to take the lead in the overall development of the institutional aspects at the State level. In June, the assessment mission was informed that the EU is making progress;¹⁰ a study to this effect was completed in April 1999¹¹ for the Federation. A similar study for RS was completed in March 2000¹² (both of these studies were funded by EU). These studies recommended, among other things, the establishment of several river basin entities to shoulder the responsibilities of the old VBH, adaptation of water resource management principles promoted by EU, and formation of independent and autonomous water utilities at the municipality level. Implementation of the recommendations has encountered some bureaucratic resistance and now EU is again in the process of undertaking a new study to update the recommendations to reflect the current situation. No verifiable information was available, however, to record the most recent progress in the implementation of the study recommendations.

23. In a new Bank project, Mostar Water Supply and Sanitation Project (Credit 3400-BA, approved on June 30, 2000), the Bank has set the following key objectives: (i) create a unified water supply and sanitation utility for the city of Mostar and (ii) improve the consistency and quality of service. At the operational level, the project includes several institutional goals, such as increased cost recovery, commercially focused utility management, and operational reliability. These focus areas emerge from the sector specific goal in the latest CAS: *“to enhance the capacity at the utility level, especially by adapting sound utility practices and pricing policies, and by institutional development and commercialization of the utilities.”* The progress so far is reported to be reasonably satisfactory;¹³ the financial situation has improved from year to year with improved (water bill) collections, and activities that aim to reduce unaccounted water are making progress, but the tangible results are yet to materialize. Similarly, the work to improve financial management is underway. The Mostar project continues the Bank approach to develop the utility level institutions and its experience will be relevant for preparing future municipal water supply and sanitation projects in BiH.

24. USAID worked with ten municipality-level *vodovods* in parallel with the Bank project. As an example of activities carried out by other funding agencies, these USAID activities are well documented¹⁴ and serve as useful comparison material. The main aim

10. The Bank was actively involved in designing these activities and, indeed provided guidance in their implementation, throughout its supervision effort of the present project, see supervision Aide-Memoires, dated May 12, 1997, February 23, 1998, and July 31, 1998.

11. Water Sector Institution Strengthening, Federation of Bosnia and Herzegovina; Final Report April 1999: Plancenter Ltd - BCEOM-Hydro-Engineering Institute, Sarajevo.

12. Institutional Strengthening of the Water Sector in the Republic Srpska; Final Report March 2000: Plancenter Ltd in association with ODP Zavod Za Vodorivredu Srpsko, Sarajevo.

13. Aide Memoire of the supervision mission, March 3-19, 2003.

14. Camp Dresser & McKee International (USA) and Hydro-Engineering Institute Sarajevo: Plan for Institutional Strengthening in Ten Selected Pilot Vodovods; Final Report, October 6, 1999.

of the USAID program was to develop a plan for institutional strengthening involving ten pilot municipalities.¹⁵ The report recommends eight priority improvement areas that deal with the autonomy of *vodovod* management, revenue collection, metering of service connections, unaccounted-water reduction, financial management systems, taxation of *vodovods*, and tariff structure and rates.

Ratings

Outcome

25. The project achieved most of its water and sanitation service goals in each of the 26 participating municipalities, while there were shortcomings in its equally important institutional development goals. Thus, its overall outcome is rated **moderately satisfactory**. The overall rating follows the importance of various objectives and their respective rating factors of relevance, efficacy, and efficiency.

- (i) *Relevance*; all sub-projects, and components therein, were relevant to the emergency needs identified at project appraisal. The project objectives also fare well even against the sector-specific goals and priorities spelled out in the most recent update of the CAS. The project, as an emergency reconstruction operation, did not specify the institutional objectives in any great detail, and thus the design of the components was quite superficial. In the process, institutional development, especially at the State level, became mostly the responsibility of EU.
Rating; substantial
- (ii) *Efficacy*; the project's objectives were mostly achieved as expected with one exception for institutional objectives; there were shortcomings in meeting these objectives at the utility level. All physical objectives were achieved to their full extent and as scheduled. The respective benefits are significant in terms of restoring the severely interrupted water and sanitation service in the participating municipalities. This in turn has reduced the risk to public health, as anticipated. In these municipalities, no solid waste collection works were carried out.
Rating; modest
- (iii) *Efficiency*; the average costs of the project components was about US\$70 per capita, which compares favorably with industry standards. Due to the emergency nature of the project, the validation of benefits resulting from the project achievements was difficult to carry out, thus no economic rate of return (ERR) was calculated for this project at appraisal or in

15. Vodovods of Banja Luka, Bijeljina, Cajnice, Celic, Gradacac, Konjic, Orasje, Srbac, Tuzla, and Zenica.

connection with ICR. The limited institutional achievements lead to assume that operational efficiency is not yet at the acceptable level. Therefore, the reliability of service may be in question.

Rating; modest

Institutional Development Impact

26. *The institutional development impact is rated **modest**.* The project provided limited training in project implementation, especially in Bank disbursement and procurement procedures. This took place both at the municipality and VBH levels. In addition, the staff that was directly involved in project implementation has gained useful experience. Some municipality level vodovods also gained experience in improving their operational efficiency. This training and experience contributed, to a limited extent, to achieving the project's IDI objectives. It is noted that the ongoing Bank projects in the water sector pay particular attention to institutional capacity building, a key objective in the CAS.

Sustainability

27. *Sustainability is rated **unlikely**.* The survey of *vodovods* participating in the project reveals rather poor financial results and it is assumed that many more substantial improvements are required before meaningful cost recovery is achievable. Technically for the most part, the water systems are being operated effectively, but the lack of financial capacity is still hampering the regular maintenance (even urgent repairs) of the old system components. Thus, unaccounted water remains at an unacceptably high level, on average. Reliability (hours of service) and coverage (percentage of population with 24-hour service) are significantly lower than anticipated.

Bank Performance

28. *Bank performance is rated **satisfactory**.* The Bank reacted to the need to restore the water, sanitation, and solid waste service quickly and prepared this project effectively in less than six months from the Dayton agreement. The support by the Bank staff during project implementation was both comprehensive and effective. The Bank total resources used in this project were about US\$0.28 million, or about 1.4 percent of the credit amount; resources used for supervision were about 70 percent of the total, demonstrating the intensity of the supervision effort. This intensive supervision was chiefly focused on supervision of physical repair and rehabilitation works; institutional aspects received, under the circumstances, lower priority. The Bank should have taken a stronger position on donor coordination, although the environment to do that among a large number of agencies with varying sets of policies and procedures was not encouraging.

Borrower Performance

29. *Borrower performance is rated **satisfactory**.* The sector staff worked under difficult conditions during the initial phase of project implementation. The Bank support to cover incremental operating costs of VBH helped its project implementation unit to

take adequate responsibility for project management. Availability and quality of staff was satisfactory. The PIU staff quickly learned the project implementation procedures — for progress reporting, procurement and disbursement — and the performance was fully satisfactory; after a familiarization period of about one year, the PIU was fully competent to manage all activities without much outside technical assistance.

Lessons

30. Two main lessons emerge from this project experience.
 - **In an emergency reconstruction program, it is essential to have a workable coordination system in place to avoid duplication of effort and inconsistent applications of policy that lead to different treatment regimes.** The objectives of this project were not attained at the planned level, as most funding aid-agencies opted to work on their own (instead of contributing to the agreed upon SRP). The use of differing sets of policy and procedures caused confusion during project implementation, and unplanned overlaps in donor activities led to a reduction in the overall program scope. In the end, lack of coordination weakened sector reform activities, and prevented the phased implementation of the rest of the SRP operations within the anticipated timeframe (see *paras.* 13 and 15).
 - **The rapid post-emergency appraisal of operations sometimes requires flexibility, but it is still necessary that key components be fully defined within the project implementation period.** In this case, institutional strengthening should have included well-specified and realistic activities that would have assisted sector agencies to improve operational efficiency in incremental steps. In the midst of hectic repair and rehabilitation efforts, institutional development measures such as reducing unaccounted water, improving efficiency and skills of staff and improving collection of bills, received lower priority. A stepwise package of the most urgent measures should have been defined in the project documents to ensure that the various entities could take needed first steps to return to normal operations after the crisis (see *paras.* 17, 19 -- 21, and 26).

Annex A. Basic Data Sheet

BOSNIA-HERZEGOVINA WATER, SANITATION AND SOLID WASTE URGENT WORKS PROJECT (TF24032)

Key Project Data (amounts in US\$ million)

	Appraisal estimate	Actual or current estimate	Actual as % of appraisal estimate
Total project costs	70.0	25.2	36%
Loan amount	20.0	20.0	100%
Cofinancing	50.0	5.2	10%
Cancellation	-	-	

Cumulative Estimated and Actual Disbursements

	FY96	FY97	FY98	FY99
Appraisal estimate (US\$M)	2.3	10.2	18.3	20.0
Actual (US\$M)	2.0	18.4	19.4	20.0
Actual as % of appraisal	87%	180%	106%	100%

Project Dates

	Original	Actual
Departure of Appraisal Mission	-	03/26/1996
Board approval	-	04/01/1996
Effectiveness	05/24/1996	05/24/1996
Closing date	06/30/1999	06/30/1999

Staff Inputs

	Actual/Latest Estimate	
	N° Staff weeks	US\$US\$('000)
Identification/Preparation	14.6	40.3
Appraisal/Negotiation	11.2	30.9
Supervision	70.2	199.4
ICR	3.5	10.0
Total	99.5	280.6

Mission Data

	Date (month/year)	No. of persons	Specializations represented	Performance Rating	
				Implementation Progress	Development Objective
Identification/Preparation	2/96	2	Sanitary Engineer Financial Analyst		
Appraisal/Negotiation	3/96	5	Sanitary Engineer Counsel Disbursement Officer Financial Analyst Procurement Specialist		
Supervision	5/96	1	Sanitary Engineer	S	S
Supervision	6/96	2	Sanitary Engineers	S	S
Supervision	12/96	1	Sanitary Engineer	S	S
Supervision	8/96	1	Sanitary Engineer	S	S
Supervision	7/97	1	Sanitary Engineer	S	S
Supervision	5/98	2	Engineer Financial Analyst	S	S
Supervision	12/98	2	Sanitary Engineer, Financial Analyst	S	S
Completion	4/2000	1	Financial Analyst	S	S

Other Project Data

Borrower/Executing Agency:

FOLLOW-ON OPERATIONS

<i>Operation</i>	<i>Credit no.</i>	<i>Amount (US\$ million)</i>	<i>Board date</i>
Mostar Water Supply and Sanitation Project	C3400	12.0	June 30, 2000
Solid Waste Management Project	C3672	18.0	June 20, 2002
Urban Infrastructure and Service Delivery Project	N/a	12.0	Under preparation