



1. Project Data:		Date Posted : 04/24/2002	
PROJ ID: P009065		Appraisal	Actual
Project Name : Bursa Water & Sanitation Project	Project Costs (US\$M)	258.4	193.2
Country: Turkey	Loan/Credit (US\$M)	129.5	107.7
Sector(s): Board: WS - Water supply (52%), Sewerage (38%), Solid waste management (8%), Sub-national government administration (2%)	Cofinancing (US\$M)	0	0
L/C Number: L3565; L3566			
	Board Approval (FY)		93
Partners involved :	Closing Date	06/30/2001	06/30/2001
Prepared by :			
Reviewed by :		Group Manager :	
Group:			
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2. Project Objectives and Components			
a. Objectives			
The main objectives of the project were to:			
a. improve the environmental conditions and reduce health hazards in Greater Bursa caused by: (i) inadequate collection, and lack of treatment of municipal and industrial sewage; (ii) seasonal flooding in some areas because of poor stormwater drainage; and (iii) inadequate domestic solid waste disposal, and lack of hazardous solid waste management;			
b. improve the institutional arrangements regarding the management of municipal water supply, sewer services, and of domestic and hazardous solid waste;			
c. meet the demand for water supply, sewerage, flood protection and solid waste services, including the demand from the poor living on the fringes of the city;			
d. postpone the need to develop new water resources by improving the efficiency of water usage by reducing the volume of non-revenue water from the presently high level of 63%; and			
e. implement appropriate cost recovery policies.			
b. Components			
(A) Water Supply, Sewerage and Stormwater			
<ul style="list-style-type: none"> water supply works and equipment (actual cost US\$41.9 million): (i) renovate existing springs; (ii) rehabilitate existing distribution networks; (iii) increase the production of well-fields; (iv) construct a distribution reservoir; and (v) construct main pipelines. sewerage works and equipment (actual cost US\$27.2 million): (a) extend the collection networks; and (b) treat and dispose sewage flows collected by the sewerage networks. stormwater drainage works and equipment (actual cost US\$19.2 million): (i) rehabilitate the existing networks; (ii) construct three open channel interceptors; and (iii) extend the collection system by laying about 14.2 km of collectors and construction of networks in new areas covering about 337 ha. technical assistance for project implementation and for institutional development. 			
(B) Solid Waste:			
<ul style="list-style-type: none"> civil works and equipment (actual cost US\$7.9 million): (i) rehabilitate the existing dump sites; (ii) develop a new landfill site; (iii) construct a waste transfer station for 600 tons per day; (iv) provide collection vehicles; and (v) provide facilities for two clinical waste incinerators of 0.5 tons per hour unit capacity. technical assistance for project implementation and for institutional development. 			
c. Comments on Project Cost, Financing and Dates			

Total project cost at completion is US\$193.2 million compared to the appraisal estimate of US\$258.4 million. Out of a difference of about US\$65 million, US\$55 million is on account of the postponement of the second phase of BUSKI (Bursa Water and Sanitation Company) wastewater treatment plants. The remaining US\$10.0 million is due to lower costs for technical assistance to BUSKI; stormwater works; postponement of the three open channel interceptors; sewerage civil works; and solid waste equipment. The final amount of the Bank loan is US\$107.7 million and US\$21.8 million was canceled. The loan was closed on schedule on June 30, 2001.

3. Achievement of Relevant Objectives:

- The objective to improve the environmental conditions and reduce health hazards in Greater Bursa was generally achieved. Under the project wastewater collection systems and networks were put in place. It is estimated that 80 percent of the wastewater now receives pre-treatment in anaerobic ponds. Stormwater drainage and rehabilitation works were completed. The project improved solid waste collection and disposal services. An air quality monitoring system was installed.
- The objective to improve the institutional arrangements was achieved modestly. Institutional strengthening for BUSKI was expected to be developed with the help of first, the twinning arrangement and later, the private operator. Since this did not occur, institutional strengthening outputs did not develop as planned particularly in regard to training of BUSKI staff and management, and the development of asset management and management information system. However, BUSKI improved worker productivity per connection, reduced unaccounted-for-water and bill collection ratio. To improve the organizational arrangements for solid waste services, BMM (Bursa Metropolitan Municipality) has contracted out the waste collection and landfill operation services to private contractors.
- The objective to meet the demand for water supply, sewerage, flood protection and solid waste services, was generally met. Population with water supply increased from 93% in 1993 to 97% in 2000 and with sewerage increased from 73% in 1993 to 82% in 2000.
- The objective of postponing the need to develop new water resources by improving the efficiency of water usage by reducing the volume of non-revenue water was achieved. Significant improvement in the management of unaccounted-for-water were made. UFW decreased from 63% in 1993 to 45% in 2000.
- The objective of implementing appropriate cost recovery policies was achieved. BUSKI has engaged private sector for meter reading, billing and invoicing. BUSKI exceeded the appraisal operating ratio target of 73%, operating ratio declined from 89% in 1993 to 59% in 2000. The targets for working ratio were achieved - working ratio declined from 87% in 1993 to 51% in 2000.

4. Significant Outcomes/Impacts:

The project resulted in promotion of private sector participation in water supply and sewerage sectors. BUSKI has engaged private sector for meter reading, billing and invoicing and BMM has contracted out the waste collection and landfill operation services to private contractors. Also the project had substantial impact on reduction in unaccounted-for-water in Bursa.

5. Significant Shortcomings (including non-compliance with safeguard policies):

- The twinning-type technical assistance for strengthening the institutional capacity of BUSKI was not successful.
- The project did not develop monitoring indicators to quantify projects impact on environment. The project did not monitor the reduction of pollution in the Nilufer River and Sea of Marmara and reduction in water-borne diseases.

6. Ratings:	ICR	OED Review	Reason for Disagreement /Comments
Outcome:	Satisfactory	Satisfactory	
Institutional Dev.:	Modest	Modest	
Sustainability:	Likely	Likely	
Bank Performance:	Satisfactory	Satisfactory	
Borrower Perf.:	Satisfactory	Satisfactory	
Quality of ICR:		Satisfactory	

NOTE: ICR rating values flagged with '*' don't comply with OP/BP 13.55, but are listed for completeness.

7. Lessons of Broad Applicability:

1. Once it is clear that a particular institutional goal intended by the project is not likely to succeed, as in the case of the twinning contract, the Bank needs to be pragmatic and should pursue alternative options.
2. The Bank needs to be mindful of the broader objectives and impacts of the project when helping the Borrowers

to set up monitoring and evaluation systems; in the case of the project, while physical and institutional progress indicators were well developed, the system did not provide for evaluating progress in achieving the larger objectives.

3. A high degree of Borrower commitment and a well-defined action program are necessary for a successful program of reduction in non-revenue and unaccounted-for-water.

8. Assessment Recommended? ☐ Yes ☒ No

9. Comments on Quality of ICR:

The quality of the ICR is satisfactory. In spite of being one of the main objectives of the project, the ICR does not provide information on the service coverage for poor living on the fringes of the city.