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IMPLEMENTATION COMPLETION REPORT  
(TF-21388 CPL-38930 SCL-38936)

ON A

LOAN

IN THE AMOUNT OF US\$ 100.0 MILLION

TO THE

REPUBLIC OF TURKEY

FOR

ANTALYA WATER SUPPLY AND SANITATION PROJECT

May 28, 2004

## CURRENCY EQUIVALENTS

(Exchange Rate Effective 2003)

Currency Unit = Turkish Lira (TL)

US\$ 1 = TL 1,387,347

## FISCAL YEAR

January 1 – December 31

## ABBREVIATIONS AND ACRONYMS

ALDAS	Antalya Commercial Project Management Company
AMM	Antalya Metropolitan Municipality
ANTSU	Antalya Water (Private operating company)
ASAT	Antalya Water Supply and Sewerage Authority
DSI	State Hydraulic Works
EIB	European Investment Bank
IB	Iller Bank
SPO	State Planning Organization

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**TURKEY**  
**ANTALYA WATER SUPPLY AND SANITATION PROJECT**

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<i>Project ID:</i> P009093	<i>Project Name:</i> ANTALYA WATER SUPPLY AND SANITATION
<i>Team Leader:</i> Alptekin Orhon	<i>TL Unit:</i> ECSIE
<i>ICR Type:</i> Core ICR	<i>Report Date:</i> May 28, 2004

## 1. Project Data

*Name:* ANTALYA WATER SUPPLY AND SANITATION  
*Country/Department:* TURKEY  
*L/C/TF Number:* TF-21388; CPL-38930; SCL-38936  
*Region:* Europe and Central Asia Region

*Sector/subsector:* Water supply (51%); Sewerage (43%); Sub-national government administration (5%); Flood protection (1%)

*Theme:* Water resource management (P); Other urban development (P); Pollution management and environmental health (P); Other financial and private sector development (S)

### KEY DATES

	<i>Original</i>	<i>Revised/Actual</i>
<i>PCD:</i> 09/27/1991	<i>Effective:</i> 10/03/1995	12/22/1995
<i>Appraisal:</i> 06/28/1994	<i>MTR:</i>	
<i>Approval:</i> 05/25/1995	<i>Closing:</i> 06/30/2003	06/30/2003

*Borrower/Implementing Agency:* ANTALYA WATER SUPPLY AND SEWERAGE AUTHORITY/ANTALYA WATER SUPPLY AND SEWERAGE AUTHORITY

*Other Partners:* EUROPEAN INVESTMENT BANK (EIB), DSI, ILLER BANK

STAFF	Current	At Appraisal
<i>Vice President:</i>	Shigeo Katsu	Wilfried Thalwitz
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## 2. Principal Performance Ratings

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HL=Highly Likely, L=Likely, UN=Unlikely, HUN=Highly Unlikely, HU=Highly Unsatisfactory, H=High, SU=Substantial, M=Modest, N=Negligible)

*Outcome:* U  
*Sustainability:* L  
*Institutional Development Impact:* M  
*Bank Performance:* S  
*Borrower Performance:* S

*Quality at Entry:* QAG (if available) ICR  
U  
*Project at Risk at Any Time:* Yes

### 3. Assessment of Development Objective and Design, and of Quality at Entry

#### 3.1 Original Objective:

The Staff Appraisal Report, dated April 26, 1995, lists the original project objectives as to:

- a. meet, at least cost, the demand for water supply, sewerage and stormwater drainage;
- b. develop new institutional arrangements for the management of municipal water supply, sewerage and stormwater drainage, and to introduce private sector participation in the operation of services;
- c. implement appropriate cost recovery policies to enhance self-financing of water and sewerage services;
- d. postpone the need to develop costly new water resources by improving the efficiency of utilization of existing sources and by reducing the volume of non-revenue water which is presently too high (46%); and
- e. improve and sustain environmental conditions and reduce health hazards that threaten the local population and the tourism industry by: (i) eliminating deficiencies in the collection and disposal of municipal sewage; and (ii) improving stormwater drainage in areas suffering seasonal flooding.

The Loan Agreement lists the same objectives although the wording is not always identical to the one in the SAR. The Loan Agreement shortens the fourth objective to read “to improve the efficiency of utilization of existing water sources and of water usage in Antalya; and the fifth objective to read “to improve and sustain environmental conditions and reduce health hazards in Antalya.”

*Assessment:* The objectives were clear and responded to the needs to satisfy the project’s *economic* feasibility (first and fourth objectives), its *institutional* feasibility (second objective), its *financial* feasibility (third objective); and its *environmental* feasibility (fifth objective). The *technical* feasibility was not in doubt for the water production and distribution works, nor for the collection of wastewater. However, the difficulties to create the political support for the introduction of the private operator (second objective) were underestimated. Interviews with stakeholders and Bank staff indicate that the borrower and the political authorities in Antalya only accepted the second objective (and subsequent loan condition) as necessary to receive the investment financing.

#### 3.2 Revised Objective:

The objectives were not revised.

#### 3.3 Original Components:

The original components as described both in the SAR and in the Loan Agreement comprised:

##### Part A: Water supply works

1. Rehabilitation of existing distribution networks, including repair of some electrical installations, pumping stations and reservoirs.
2. Construction of about 24 new wells and replacement of eight pumps to increase production of three well fields.
3. Construction of about 40,000 m<sup>3</sup> of distribution reservoir capacity to meet water demand and

4. Replacement and extension of about 500 km of existing distribution networks to supply consumers, including construction of two new pumping stations, replacement of pumps and replacement of water meters.

#### Part B: Sewerage works

1. Construction of a collection network of about 10 km including a small temporary wastewater treatment plant in the old part of Antalya and rehabilitation of the existing network and septic tank at the small-scale industrial area.
2. Construction of new collectors and collection networks of about 380 km to serve about 1,660 ha. in the western part of Antalya.
3. Construction of a preliminary wastewater treatment plant with a capacity of about 90,000 m<sup>3</sup>/day at the west end of Antalya, including a sea outfall.

#### Part C: Stormwater drainage works

1. Construction of missing sections on the networks, such as culverts, curbs and channels, and removal of debris from existing rivers, channels and ditches.

#### Part D: Technical assistance

Provision of consultant services for:

1. Project implementation:
  - a. Detailed design and construction supervision for the water supply, sewerage and stormwater drainage works.
  - b. Hydrogeological survey of groundwater facilities.
  - c. Site survey and investigations for mapping of the water supply systems; and
  - d. Preparation of a comprehensive stormwater master plan.
2. Institutional development:
  - a. Strengthening the Project Management Unit to assist the Borrower, the Antalya Metropolitan Municipality, the district municipalities and the Sirket in initiating, coordinating and supervising Project activities.
  - b. Preparation of bidding documents, bid evaluation and contract negotiations for the private operation of water supply, sewerage and stormwater systems; and
  - c. Assistance to the Sirket through a twinning agreement or contract with a water supply and sewerage operator for the management of the services, planning and administration of contracts and the implementation of a training program.

#### *3.4 Revised Components:*

There were no major revisions to the components except under Part B (Sewerage works). Instead of constructing a small wastewater treatment plant in the old part of Antalya the sewage from this area will be directly pumped to the main collector which makes the intended small wastewater treatment plant superfluous. Under part B – in addition to constructing the contractual preliminary wastewater treatment plant – ASAT built the first stage of a secondary wastewater treatment plant although it was not part of the original project. This biological, activated sludge treatment

plant was initially considered unnecessary by the Bank to safeguard the necessary quality of the seawater in the Bay of Antalya. However, the Antalya Metropolitan Municipality and ASAT decided to finance and build it with the operational surpluses from ASAT because the local environmental authorities conditioned the use of the submarine outfall and of the sewerage system on the existence of biological, secondary wastewater treatment. On the total, US\$ 27.5 million is cancelled out of the total loan of US\$100.0 million. Due to cost savings, and ASAT's request US\$ 14.9 million, and US\$ 9.0 million out of the loan were cancelled as of February 23, 2001 and March 11, 2003. Due to non-compliance with project conditions the Bank cancelled US\$ 3.6 million out of the loan as of April 1, 2003.

### *3.5 Quality at Entry:*

At the time of project preparation the Quality Assurance Group (QAG) did not exist within the World Bank. A Japanese Project Preparation Facility Advance Grant was used to help prepare the project. The total project preparation time was about two years and included procuring an international consultant consortium. The Bank supervised the preparation of the feasibility study fairly intensively with at least six Bank missions in the period 1991-1993, prior to appraisal. The Bank identified weaknesses of the staffing and quality of work of the consulting consortium with respect to the project's financial and institutional aspects and requested replacement of staff with others more qualified. The political support in favor of introducing private sector participation in the operation of services does not seem to have been as strong and sustained as thought at the time of appraisal. The preparation of bidding documents and the supervision of the competitive procurement was assisted by the consulting arm of a privatized UK operator. Because of insufficient political support in favor of private sector participation and because of the fact that the project investments were large in comparison to the size and payments capacity of the city of Antalya **the ICR rates the Quality at Entry "unsatisfactory."**

## **4. Achievement of Objective and Outputs**

### *4.1 Outcome/achievement of objective:*

**Objective (a):** "To meet, at least cost, the demand for water supply, sewerage and stormwater drainage"

**This ICR rates that this objective was met.** For water supply the share of residential households connected to the public water supply rose from an estimated 95% at the time of appraisal to 100% from 1995 onwards. Total demand was met at all times as evidenced by the fact that service was continuous for 100% of the water connections. Similarly, 100% of samples from the distribution system have contained residual chlorine and are presumed bacteriologically safe since 100% of water samples tested negative for *e-coli in* the period 1996-2003.

Given that tariffs are economically appropriate and collection rates are high water demand was met at least cost because all connections were metered throughout the period which promotes efficient water consumption. Annual water production rose by 12% from 64 million m<sup>3</sup> in the year 1996 to 71 million m<sup>3</sup> in the year 2003 while the total number of water customers rose by 23% from 205,000 to 253,000 in the same period. Operating costs and investment costs developed favorably compared to historical levels and projections. Energy consumption per m<sup>3</sup> produced fell from 0.82 kWh in 1995 to 0.55 kWh in 2002. Staff productivity improved during the period to reach 1.2 employees per thousand water connections. Finally, the quantities of water supply works and equipment were surpassed (See Annex 1 for Key Performance Indicators) while

the actual investment cost for water was 54% of appraisal estimates (See Annex 2 for Project Cost by Component).

Sewerage demand was also met at least cost. Before the project Antalya had no public sewerage. At the end of the project in 2003 about 35% of the urbanized area had sewerage and about 24% of total households in the sewered areas had connected to the sewerage network. The lag in effective connection rates is a common phenomenon in sewerage projects and indicates that households are slow in abandoning their existing septic tanks in favor of public sewerage. The lag has been reduced in the most recent years 2002 and 2003. However, the actual number of sewerage connections remained about half of projected levels in 2003 a fact that can be attributed to overoptimistic demand projections during project preparation.

Antalya's topography and its porous travertine geology both facilitate stormwater drainage. With this in mind stormwater drainage was not perceived as a major problem under the project. However, with the city's rapid development and the paving of streets the risk for stormwater damage has increased somewhat. ASAT is now taking mitigating measures that follows the master plan under the project such as the construction of additional channels and culverts.

**Objective (b):** “To develop new institutional arrangements for the management of municipal water supply, sewerage and stormwater drainage, and to introduce private sector participation in the operation of services.”

**The ICR rates that this objective was not met.** First, a *sirket*, the commercial enterprise ALDAS, was created to manage the project investments and provide a more flexible complement to ASAT that retained its statutory responsibility to manage water supply, sewerage and stormwater services. ALDAS became the project implementation unit for the project and handled project procurement and relations with the private operator ANTSU. However, ALDAS did not acquire fully sufficient operating experience to monitor the contract between ASAT and ANTSU. Second, private sector participation was *introduced* in Antalya under a contract signed in November 1996 but the contract lasted only half of the ten-year contract period. Following ANTSU's departure the contract is now in arbitration with ANTSU claiming compensation of US\$ 30 million from ASAT and ASAT having filed a counter claim of US\$ 40 million. After ANTSU's departure ASAT wished to contract again with a private operator but first wanted to undertake a study to define the optimal form of private sector participation. However, due to the substantial effort necessary to prepare for the arbitration procedures, ASAT deferred the options study and the renewed effort to contract with another private operator.

**NOTE:** The ICR merely intends to record the facts of the private operator contract and take no position on which party, ASAT or ANTSU, is to blame for the contract difficulties, including the termination. The Bank should not be perceived in any way as wishing to influence the outcome of the arbitration proceedings that are scheduled to be concluded by June 30, 2004.

**Objective (c):** “To implement appropriate cost recovery policies to enhance self-financing of water and sewerage services.”

**The ICR rates that this objective was not met.** On the positive side ASAT did contract with the private operator ANTSU in November 1997 using a remuneration formula that would give strong incentives for ANTSU to increase collections. ANTSU was to be paid an agreed remuneration per cubic meter of water billed *and collected* from the ASAT customers. Second, ASAT proposed and the Antalya Municipal Council adopted a tariff policy designed to generate

substantial cash flow to enable ASAT to contribute to the large investment program. The water tariff was close to US\$ 1.00 for a number of years, an internationally high level. A sewerage surcharge of 75% was added starting in the year 2002 when the sewage treatment plant began operating. Because ANTSU was remunerated on the basis of a flat (and low) fee per cubic meter collected, the working ratio (cash operating costs/cash operating revenue) was in the order of 0.33 during most of the project period. As a result the internal cash generation proved substantial. Collections rose from an annual US\$ 9 million in 1995 to US\$ 33 million as a result of higher sales and roughly doubled tariffs. Out of the total actual investment of US\$ 205.3 million ASAT financed US\$ 56.0 million or 27%, close to the appraisal estimate of 26%. (Annex 11). In terms of total internal cash from operations invested ASAT contributed US\$ 63.9 million, or almost identical to the appraisal estimate of US\$ 63.4 million. The latter sum includes US\$ 7.9 million that ASAT paid for the construction of a biological wastewater treatment plant that was not part of the original project. On the negative side, ASAT failed to meet all its financial obligations since it failed to pay the debt service to the Bank and to the European Investment Bank on time. Instead, the guarantor, the Turkish Treasury, had to step in and pay the debt service. The Treasury subsequently obliged ASAT to refinance the debt service by paying back the amounts of each debt service amount over a period of 12 months. Although ASAT at the present time is current in its refinancing obligations with the Treasury this was not always the case.

**Objective (d):** “To postpone the need to develop costly new water resources by improving the efficiency of utilization of existing sources and by reducing the volume of non-revenue water which is presently too high (46%);

**The ICR rates that this objective was not fully met.** The first part of the objective was met because the existing well-field proved sufficient to supply Antalya without having to implement the Karacaoren surface water scheme that had been identified by DSI as the next supply scheme. The second part of the objective - of reducing the volume of non-revenue water - was likely not met. It seems certain that the level of non-revenue water was 63% at the closing of the project which is obviously higher than the 46% estimated at the time of appraisal. However, the appraisal estimate was uncertain. ASAT estimates the level of non-revenue water at the time of appraisal might have been as high as 66%. ASAT claims that the level of physical losses has actually been reduced from 46% in 1996 to 39% in 2002 and that the level of commercial losses has risen from 20% to 24% during the same period. In such a case non-revenue water has held roughly steady during the project implementation, albeit at an excessive level. The matter is nontrivial and is at the center of the dispute between ASAT and ANTSU. The private operator, ANTSU, claims that the leakage remain at high levels due to the fact that ASAT (in charge of the investment program) replaced too little of the existing distribution system. ASAT claims that the failure to reduce non-revenue water is mainly due to ANTSU's poor performance. ASAT argues that ANTSU failed to live up to its technical proposal where, without conditioning the reduction to the investment program, committed itself to raising the network efficiency (the accounted water) to 70% within three years of taking over operations and to 85% at the end of the ten-year operating contract.

**Objective (e):** “To improve and sustain environmental conditions and reduce health hazards that threaten the local population and the tourism industry by: (i) eliminating deficiencies in the collection and disposal of municipal sewage; and (ii) improving stormwater drainage in areas

suffering seasonal flooding.

**This ICR rates that this objective was met.** The wording of this objective in the Loan Agreement is more succinct: “To improve and sustain environmental condition and reduce health hazards in Antalya.” Meeting this objective requires the potable water quality to be safe; for wastewater to be collected and taken outside the urbanized area; and for the collected wastewaters to be treated and disposed of in an environmentally sustainable fashion. The project improved all of the three conditions. First, the distributed water has been continuous during the project period and tested positive for residual chlorine. Second, the share of the population connected to the sanitary sewerage system rose from negligible levels before the project to about 24% in the year 2003. Prior to the project, this sewage had contaminated the groundwater from the septic tanks that leaked into the geological (karstic) formations. Third, the effluents from the biological treatment plant comply with the Turkish standards of a maximum of 30 PPM (parts per million) of Biological Oxygen Demand (BOD) and 30 PPM suspended solids (SS). The existing biological treatment plant has a removal efficiency of 92-94% and is operated by a private contractor under the Design-Build-Operate contract. In accordance with the project monitoring the Environmental Engineering Department of the Akdeniz University has monitored seawater quality in the Bay of Antalya and concluded that “there is no serious pollution in the study area both in *Offshore* and *Nearshore* locations.”

In summary, two objectives (a) and (e) were fully met, and three objectives (b), (c), and (d) were not met. Given that the project failed to achieve three major relevant objectives *the ICR rates outcome as “unsatisfactory”*.

#### *4.2 Outputs by components:*

The implementation by component is detailed in Annex 8. The project generally accomplished more than what had been planned in terms of physical quantities with the exception of the water supply component.

#### *4.3 Net Present Value/Economic rate of return:*

Annex 3 provides the economic cost benefit analysis for the project. Water supply benefits have been taken as the incremental volumes of water billed and collected, valued at the average water tariff for each year. This understates actual water benefits, because it does not capture consumer's surplus in the incremental consumption. By not including the billed by uncollected volumes, it also does not capture the consumption benefits to those who did not pay their bills. An offsetting factor is that no attempt was made to measure decreases in consumption, hence economic value, by originally connected consumers in response to higher prices. Wastewater benefits have been taken as the incremental volumes of wastewater billed and collected each year, valued at the wastewater tariff each year. It is assumed that the Antalya consumers were willing to pay such higher tariffs because they perceived that they were receiving something that they had not had prior to the project, collection, biological treatment and adequate disposal of a substantial portion of the sanitary sewage. This estimate is conservative and does not attempt to quantify the external benefits, such as environmental and health benefits, that most consumers have difficulties appreciating fully and therefore will not be readily prepared to pay for. Incremental operating costs have been actual operating costs less operating costs at the 1995 level (prior to project investments). Incremental investment costs are taken as those of the project with the payments profile from Annex 10. Incremental costs have been reduced by the VAT, or by an average 15% over the 1995-2003 period since the VAT is taken to be a purely fiscal tax that did not produce

any benefits to ASAT and the consumers. Finally, the net benefits in current US dollars have been deflated by the US consumer price index to produce a cash flow in constant prices. The economic rate-of-return (EROR) of the net benefit stream is calculated as 4.3%, or somewhat lower than the 9.3% rate of return forecast at appraisal.

#### *4.4 Financial rate of return:*

No financial rate-of-return has been calculated because none was calculated at appraisal.

#### *4.5 Institutional development impact:*

**The ICR rates the institutional development impact (IDI) as “modest”.** The creation of a commercial enterprise, *sirket*, ALDAS, represents a significant accomplishment. ALDAS implemented successfully a large project within the budget and time frame allotted. Its value has been proven in the ongoing arbitration proceedings with the former private operator ANTSU. Without ALDAS’ ability to employ world-class legal expertise it is unlikely that either ASAT or the Antalya Metropolitan Municipality would have been in a position to argue their case effectively. However, ALDAS was never able to become independent from the Antalya municipality.

The IDI in the case of the legal borrower ASAT is rated as “modest”. ASAT was established on February 18, 1995 in accordance with the ISKI Law # 2560 of the year 1981. The trigger for the establishment of ASAT was the fact the Antalya Municipality received the status of a metropolitan municipality. ASAT became the official borrower of the Bank and EIB loans and became ultimately responsible for project implementation and procurement. Another consequence of the changed status, although not attributable to the project, was the requirement of creating district municipalities (DMs). In the case of Antalya three DMs were established. The DM administrations reflected municipal election results where the party affiliation of the three DMS was different from that of the Mayor of the Antalya Metropolitan Municipality (AMM). The divergent party mandates complicated the governance of ASAT that depended on the Municipal Council for approval of the tariff and support on institutional matters such as private sector participation.

ASAT’s lack of autonomy influenced the Bank-financed project on three occasions. The first two were the transfers or “loans” from ASAT to the AMM of US\$ 14 million in the year 1996 and of US\$ 6 million somewhat later. The “loans” were used for municipal purposes not directly related to the Bank water supply and sanitation project in contradiction of Sections 4.01 and 5.02 of the Loan Agreement that prescribed that ASAT was forbidden to invest more than US\$ 0.2 million without the authorization from the Bank. Only US\$ 1 million of the “loans” were repaid from the AMM to ASAT. The third occasion was the construction of secondary wastewater treatment, outside the original project design. The Ministry of the Environment approved the original project design comprising only preliminary treatment on the basis of the feasibility study. The preliminary plant was financed by the European Investment Bank and successfully completed in 1999. However, already in November 1996 ASAT and the Antalya Metropolitan Municipality informed the Bank that they wished to add a secondary, biological wastewater treatment plant in response to complaints from local environmental groups that a preliminary treatment plant would not be sufficient to ensure satisfactory seawater quality. After extensive discussion, the Bank agreed to include the biological treatment plant but conditioned its approval on a satisfactory environmental

impact assessment since the treatment plant investment would be an Environmental Category A. However, ASAT did not want to delay further the building of the treatment plant and went ahead and financed the entire investment cost out of its own cash flow. The financing of the entire investment cost of US\$ 8 million from its internal cash generation weakened ASAT's finances.

The most significant institutional development impact refers to the contracting of the private operator, ANTSU. The decision to introduce a private operator seems to have had little political support within ASAT and the AMM. The chosen form of private sector participation (PSP) was a lease contract with a zero lease fee. Significantly, no options study was undertaken. The private operator was to operate and maintain the existing water supply and planned sewerage systems on behalf of ASAT with remuneration for each cubic meter billed and *collected* from the customers. The procurement was based on a two-stage procedure where potential bidders were first pre-qualified technically and then participated in the actual bid where contract award was based on remuneration demanded per cubic meter collected. ASAT contracted with a private UK firm to help out on the preparation of bidding documents and for advice during negotiations.

Four private operators were pre-qualified: a French operator Lyonnaise des Eaux in a joint venture with the Turkish contract ENKA; another French operator SAUR in a joint venture with the Turkish firm ALKE; a UK operator North West Water International in a joint venture with the Turkish firm IDIL and another UK operator Thames International in a joint venture with the Turkish firm Dogus.

Only the first three consortia submitted bids in mid-1996. The bid award criterion was the lowest demanded remuneration during the stipulated ten-year operating contract where the estimated quantities of water and wastewater billed and collected were fixed to make the financial proposals readily comparable. The respective bid fees per cubic meter during the ten year contract are shown in Table 1 with the total evaluated financial bid.

**Table 1 Financial Bids from the Private Operators, '000 TL/m<sup>3</sup>**

(Prices at the time of the bid in mid-1996, to be adjusted by a composite price index)

Year of Contract	Lyonnaise des Eaux/ENKA		North West International/ IDIL		SAUR/ALKE	
	Water	Sewage	Water	Sewage	Water	Sewage
1	31	NA	21.3	NA	37.5	NA
2	24	NA	21	NA	37	NA
3	19.5	3	20.6	11.6	36	2
4	17.4	3	19.8	11.6	28	23
5	14.5	2.8	19	11.6	25.5	19.5
6	13.7	2.2	18.2	9.9	24	16.5
7	13	1.8	17.3	9.9	22.5	14.5
8	12.8	1.8	16.5	9.9	21.5	14
9	12.5	1.7	16.5	8.3	21.5	13
10	12.2	1.7	15.7	8.3	21.5	13
Total Evaluated Bid, billions of Turkish Lira	<b>7,350</b>		<b>9,366</b>		<b>13,684</b>	

In accordance with the stated selection criterion ASAT awarded the contract to the Lyonnaise des

Eaux/ENKA consortium. SAUR/ALKE lodged a protest claiming that the Lyonnaise des Eaux /ENKA financial bid was unrealistically low. However, ASAT rejected the objection and awarded the contract to the Lyonnaise/ENKA consortium. The Bank gave its no-objection to the contract in a communication on October 24, 1996. The operating contract was signed in November 1996 and the Lyonnaise des Eaux /ENKA private operator, ANTSU, took over operations in February 1997.

Contract implementation proved difficult and resulted in losses for ANTSU. None of ASAT's operating staff transferred to ANTSU in order not to lose the job security and financial conditions of municipal employment and ANTSU was obliged to recruit new staff. The Turkish partner ENKA left fairly early into the contract, selling their shares in the joint venture to Lyonnaise des Eaux. As a consequence, the private operator became synonymous with a foreign operator, possibly weakening the political support among the population and the Municipal Council. Towards the end of the first five years of operations ANTSU presented its case to the Antalya Municipal Council and requested that the remuneration to be adjusted since ANTSU had, by its own calculations, lost significant amount of money. The adjustment request was permissible within the contract (Section 2.2) that allowed that "...at the end of the fifth year of the Contract, the Employer/Supervisor and the Operator will discuss the possibility ... and the inclusion, by agreement of the Parties of the right to renegotiate prices". However, ASAT did not agree to discuss to adjust contract prices.

On February 7, 2002, prior to its obligation to renew its performance bond of US\$ 1 million by the deadline of February 8, 2002 ANTSU obtained an injunction against renewing the performance bond in a court in Istanbul. On February 15, 2002 ANTSU asked for arbitration procedures to be initiated and claimed compensation of US\$ 30 million from ASAT. On May 2, 2002 ANTSU notified ASAT that it was obliged to liquidate itself as required under Turkish law, given that two thirds of its equity had been lost. ANTSU then declared to be prepared to "in good faith ...continue to perform under the Contract " for another 30 days from May 2, 2002. ASAT assumed responsibility for operations on June 1, 2002, taking over ANTSU's staff and operating procedures. Subsequently, ASAT filed for damages of US\$ 40 million with the arbitration panel. The arbitration is now proceeding with a possible decision by June 30, 2004. The ICR rates the overall IDI from the private operator as "negligible" since ASAT is operating the system with much the same technical and commercial efficiency as ANTSU.

## **5. Major Factors Affecting Implementation and Outcome**

### *5.1 Factors outside the control of government or implementing agency:*

During project implementation Turkey suffered two major macro-economic crises, in the years 2000 and 2001, respectively. The crises reduced both total GDP and per capita GDP and arguably made it more difficult to collect for water supply and wastewater services. The deep devaluation of the Turkish lira (in which collections were paid) with respect to the US dollar (in which debt service was paid) meant that ASAT suffered the consequences of the foreign exchange risk.

### *5.2 Factors generally subject to government control:*

The most significant government control was exercised by the Antalya Metropolitan Municipality the Municipal Council of which approves ASAT's tariff. The water supply tariff did vary

substantially during project implementation, starting out at US\$0.52/cubic meter and rising to US\$ 1.00/cubic meter. In between there were periods when the adjustment formulas failed to compensate for high inflation rates. The variations could have been prevented had there been more explicit criteria to set tariffs to automatically adjust for inflation.

The transfers of US\$ 14 million and of US\$ 6 million from ASAT's operating surplus in the 1995-99 period for use of Antalya's municipal expenditure weakened the ASAT cash flow. It shows that ISKI-type companies (under Law 2560) are still prone to political interference from its metropolitan municipal owners.

### *5.3 Factors generally subject to implementing agency control:*

ASAT and ALDAS managed the substantial investment program and supervised the performance of ANTSU during most of the project implementation period. Their performance is rated "satisfactory" judging by the cost efficiency of the investment program. Effective June 1, 2002 ASAT is in charge of operations and maintenance. Again, ASAT has operated the system as efficiently as the previous private operator, ANTSU. ALDAS has played a particularly important role in the arbitration proceedings from February 2002 and onwards. Its greater flexibility in employing eminent experts and legal counsel has helped the case of ASAT in the arbitration with ANTSU (under liquidation). Without ALDAS it would probably have been difficult and even impossible for ASAT to defend itself given that its expenditures and hirings are subject to strict restrictions of the Turkish Interior Ministry.

### *5.4 Costs and financing:*

Annex 2 provides a comparison between project costs, as appraised and actual. Overall project investments amounted to US\$ 205.3 million or 84% of appraised investments of US\$ 244.6 million while physical quantities were exceeded for most project categories. The three main project cost categories were water supply where actual investments turned out to be 54% of appraised investments; sewerage where actual investments amounted to 122% of appraised investments; and consultancy services and engineering that resulted in 47% of appraised levels. Sound procurement seems to explain a portion of the lower-than-expected costs. Annex 9 provides data on the project cost by procurement arrangements at appraisal. About 66% of the investments were bid with international competitive bidding (ICB), about 7% with national competitive bidding (NCB); about 21% with other procedures (as related to the components with parallel financing from the European Investment Bank (EIB), DSI and Iller Bank), and the remaining 6% with yet other procedures (related mainly to the biological treatment plant financed by ASAT itself.) The lower-than-appraised investment costs are not due to favorable exchange rate movements during the project implementation period as compared to domestic price inflation as Table 2 indicates.

**Table 2 Devaluation and Inflation Rates during the Project Implementation, 1996-2003**

Year	Annual US\$/TL Exchange Rate	Annual US\$/TL Exchange Rate Index	Consumer Price Index, July of each year	Consumer Price Index, 1995=100
1995	44,800	100	185	100
1996	83,000	185	334	180
1997	153,400	342	620	335
1998	268,700	600	1148	620
1999	430,300	960	1895	1,020
2000	630,300	1,410	2960	1,600
2001	1,334,000	2,980	4628	2,500
2002	1,550,000	3,460	6538	3,530
2003	1,390,000	3,100	8331	4,500

The five financing sources proved to be fairly close to the appraised shares with the exception of the World Bank that financed a smaller share, both absolutely and relatively, following cancellations of portions of the original loan on two occasions. Annex 11 gives the details of amounts and project categories financed by each of the two financial institutes, the World Bank and the EIB, by the Turkish financial agencies Iller Bank and DSI, and by ASAT itself from its internal cash generation. Table 3 summarizes the volumes and shares of financing from the five funding sources:

**Table 3 Appraised and Actual Financing of the Project Costs**

Financing Source	Appraised Amount US\$ millions	Appraised Share, %	Actual Amount US\$ millions	Actual Share,%
World Bank	99.8	41	72.6	35
EIB	46.5	19	40.1	20
DSI & Iller Bank	34.9	14	28.7	14
ASAT	63.4	26	63.9	31
Total	244.6	100%	205.3	100%

As a result of a slower-than-expected start-up and lower total Bank financing, Bank disbursements lagged forecasts during project implementation. Annex 12 compares actual disbursements, in absolute and in relative terms, to disbursements forecast in the staff appraisal report. Total disbursements reached US\$ 72.6 million, or 73% of disbursement forecasts. On the total, US\$ 27.5 million is cancelled out of the total loan of US\$100.0 million. Due to cost savings, and ASAT's request US\$ 14.9 million, and US\$ 9.0 million out of the loan were cancelled as of February 23, 2001 and March 11, 2003. Due to non-compliance with project conditions the Bank cancelled US\$ 3.6 million out of the loan as of April 1, 2003.

## 6. Sustainability

### 6.1 Rationale for sustainability rating:

**The ICR rates sustainability of the project as “likely”.** Since taking over operating responsibility on June 1, 2002 ASAT has demonstrated its capacity to operate and maintain the system satisfactorily. The environmental sustainability seems assured judging by the monitoring of the quality of the seawater in the Bay of Antalya. The financial sustainability also seems “likely” as evidenced by the substantial operating surpluses resulting from ASAT’s working ratios of 0.32 and 0.35 for calendar years 2002 and 2003, respectively. The ratios signify that only about one third of collections is expended to operate and maintain the system. The operating surplus could be used for complementary investments and for debt service. Debt service on the Bank loan that started on November 1, 2000 has not been paid on time by ASAT and the Turkish Treasury has stepped in since it is the guarantor of the loan. Subsequently, Treasury has refinanced the debt service it has paid and obliged ASAT to repay the debt service payment over a period of 12 months. ASAT has also failed to pay debt service to EIB. Overall, Treasury was forced to pay US\$ 7.0 million in 2000, US\$ 8.8 million in 2001, US\$ 10.5 million in 2002 and US\$ 5.2 million in 2003. However, ASAT has complied with the refinanced debt service payments since then and does not have any overdue payments to the Treasury at the present time. ASAT’s debt service difficulties may partly be due to the fact that debt service under the Bank loan started before the

entire project was concluded and the expected financial benefits from the sewerage investments did not materialize as quickly as forecast. The grace period of five years was substantially shorter than the scheduled project implementation period of seven years.

#### *6.2 Transition arrangement to regular operations:*

No special transition arrangements are necessary. ASAT took over operations from the former private operator, ANTSU, on June 1, 2002. Service quality has been maintained and it is unlikely that the population of Antalya has noticed the operator change since ANTSU operated, billed and collected in the name of ASAT.

## **7. Bank and Borrower Performance**

### **Bank**

#### *7.1 Lending:*

The project was identified during a reconnaissance mission in July 1991. It was originally designed as an urban project with two components: a large water supply and sanitation component and a small solid waste management component. At one time, the total estimated project cost was US\$ 287 million, where the plan for the World Bank was to finance US\$ 112 million to the ISKI-type water supply and sewerage company and US\$ 11 million to the Antalya municipality for the solid waste component. Subsequent preparation with the use of a Japanese Grant of US\$ 2 million and a Project Preparation Facility of US\$ 750,000 indicated that it would be counterproductive to lump the two components together since the land acquisition for the sanitary landfill proved lengthy. The water supply and sewerage project was then prepared by a competitively procured consultant consortium, guided by at least five Bank preparation missions. The project was pre-appraised in February 1994 and was presented to the Board in May 1995. The relatively lengthy project preparation was explained partly by the difficulties in setting up the *sirket* to manage the project. Bank project preparation was weak on two grounds. It does not seem to have devoted sufficient time to explain and analyze the choice of a PSP model.

The second weakness during project preparation was the size of the project in relation to the population of Antalya. This issue was flagged during a project preparation mission that questioned whether project investments of about US\$ 250 million would be affordable by a population that at the time amounted to 0.5 million. Although there is substantial seasonal tourism its effect on collections is not as significant as that of the all-year-round population. The result could only be either high tariffs or deferred investments. In the end, both resulted.

Because of these two weaknesses in project design the Bank performance during lending is rated as ‘unsatisfactory’. Compliance with Bank safeguards was never an issue. The readiness for implementation was fairly satisfactory since the project became effective five months after loan signature.

#### *7.2 Supervision:*

The ICR rates Bank performance during supervision as “satisfactory”. Procurement and financial supervision was managed by staff from the Bank country office in Ankara and proved economical and timely. The supervision also included missions from headquarters staff. Annex 4 provides a list of preparation and supervision missions through the project preparation and implementation periods. Bank supervision turned particularly intensive in the 2000-2003 period and resulted in

two suspensions of disbursements that attempted to help redress ASAT's financial difficulties. The first suspension was on June 28, 2001 and was lifted on November 16, 2001. The second suspension was made effective on December 23, 2002 and was never lifted. Instead it resulted in the cancellation of about US\$ 3.6 million on April 1, 2003. The trigger for the first suspension was ASAT's failure to pay the first Bank debt service on November 1, 2000 and its decision to go ahead with the construction of the secondary biological treatment plant even if it meant that its financial situation would be weakened. The second suspension of disbursements had three conditions for lifting disbursements:

- A demonstration that ASAT would be financially viable (which in the Bank's mind evolved around ASAT's ability to pay debt service to the Bank according to the Loan Agreement, i.e. without resorting to the Treasury guarantees;
- A decision of the General Assembly of the Antalya Metropolitan Municipality to support ASAT's decision to rehire a private operator; and
- A schedule to hire a private operator

Failure on the part of ASAT to meet the conditions, led to the cancellation of the Bank loan.

#### *7.3 Overall Bank performance:*

Overall Bank performance is rated as "marginally satisfactory". The weaknesses during project preparation were largely offset by the active and timely supervision.

#### *Borrower*

##### *7.4 Preparation:*

The Borrower's participation during project preparation seems to have been limited. The staff of ASAT were not fully integrated with the consultants' and the Bank's project preparation partly because of their limited experience from preparing integrated infrastructure projects. In particular, their understanding of the risks associated with the hiring of a private operator was limited. Similarly, the understanding of what would be an affordable project size seems to have been compromised by the desire of the municipal administration in favor of a large project that would meet the city's need for a sewerage system.

##### *7.5 Government implementation performance:*

The Government implementation performance dealt with three issues. The first was supporting tariffs sufficient to generate the necessary counterpart funding. The water tariff roughly doubled during the 1995-2003 period from US\$ 0.5 per cubic meter to US\$ 1.0 per cubic meter, a level that is comparable to those in Western Europe and high relative to the population's income levels. The second issue was the selected level of sewage treatment. During project implementation the popular demands in favor of secondary biological treatment grew stronger. However, given the negative environmental perception of the project, the Bank during supervision agreed to finance the treatment plant. ASAT however did not want to follow the Environmental Category A procedures of the Bank since it considered that these might be time-consuming. In the end, it resulted in the decision to construct (successfully) the first stage of the biological treatment even though it meant that ASAT was forced to finance the totality of the investment from its operating surplus. The third issue was the decision of the Antalya metropolitan municipality and the district municipalities to siphon off part of the operating surplus from ASAT to pay for municipal expenditure unrelated to the water supply and sewerage project. This was detrimental to the

project since it weakened the project’s financial viability. AMM’s decision was in line with the imperfect governance of ISKI-type companies in Turkey where municipalities at times use operating surpluses from water supply and sewerage operations for other municipal expenditure. However, AMM’s actions constituted a breach of the Bank Loan Agreement. Not paying back the loan as a borrower was also in breach of the General Conditions of the Loan Agreement. On balance, the performance of the Local government is rated as “marginally satisfactory”, taking into account the satisfactory support of higher tariffs and the unsatisfactory use of ASAT’s operating surpluses on two occasions.

*7.6 Implementing Agency:*

The ICR rates ASAT’s performance as “**marginally** satisfactory” and that of ALDAS as “satisfactory” given the success of effective project implementation and economical procurement.

*7.7 Overall Borrower performance:*

On balance, the Borrower performance is rated as “**marginally** satisfactory.”

## 8. Lessons Learned

### The Antalya project teaches a number of lessons.

#### **Lesson One: The Risk Analysis and Allocation of Private Operator Contracts in the Water Supply and Sanitation Sector Must be Improved**

**Table 4 Relevant Risks of the Operational Cash Flow and Their Allocation**

Cash Flow Item	Type of Risk	Level of Risk	Allocation of Risk
Water Production,m3	Technical	Low	ANTSU
-Network Leakage,m3	Technical	Medium	ANTSU
-Commercial Losses,m3	Commercial	Medium	ANTSU
Water Billed,m3	Demand	High	ANTSU and ASAT
* Water Tariff,\$/m3	Political	High	Antalya Municipality
=Water Billings,\$			
-Collections Losses,\$	Commercial	Medium	ANTSU
=Water Collections,\$			
- Operating Costs,\$	Technical	Medium	ANTSU
- Investment Costs,\$	Construction	Medium	ASAT
-Interest Costs,\$	Financial	Low	ASAT
-Loan Amortization,\$	Financial	Low	ASAT
-Foreign Exchange Purchases	Foreign Exchange Risk	High	ASAT
= Remaining surplus,\$			

Table 4 identifies and quantifies the risks affecting the project and shows the allocation of the different types of risk. It is obvious that the level of risk was high for most of the risks that ANTSU and ASAT assumed. Many risks became still higher because of the two deep macroeconomic crises that affected Turkey in the years 2000 and 2002, respectively. The lesson for all parties, including the Bank, is that the risk analysis must be strengthened where the involved parties take on considerable risk with few means of mitigating risk such as renegotiating the terms of the operating contract. For instance, the strict Turkish public procurement legislation did not afford ASAT the opportunity of adjusting the remuneration to ANTSU even it had wanted

to.

**Lesson Two: Projects Must be Affordable.** The project was too big which led to the financial difficulties. The project would better have been implemented in stages.

**Lesson Three: Projects should have Limited Objectives.** The project's five objectives made it difficult to implement. The corollary is that the more objectives there are the more likely it is that the project outcome will be rated "unsatisfactory" since it becomes increasingly difficult to meet all of the objectives.

**Lesson Four: The Selection Criteria in Private Sector Participation Must Be Carefully Analyzed.** In Antalya price was the driving criteria to select an operator. Provisions should be put in place that will protect against undue low financial bids where the expectation may be that initially low tariffs will subsequently be raised. Typically, public procurement legislation for all countries support the selection of the bidder with the lowest price requiring remedial measures to be put in place that would prevent against low-balling by the operator. Remedial measures might include requiring bidders to provide higher performance bonds although the resulting benefits must be balanced against the additional costs of higher bond amounts.

**Lesson Five: Local utilities may not be able to bear the exchange rate risk where there is a high risk of devaluation and where the revenue is in local currency but debt service is in foreign exchange.**

Such foreign exchange risks can at times be mitigated through swaps although this would hardly have been possible in the case of ASAT. Alternatively, the Treasury might have assumed the foreign exchange risk in return for an annual fee, commensurate with the level of foreign exchange risk. In this way the risk allocation would have been better aligned with the ability to take corrective action to reduce the foreign exchange risk. ASAT itself is not in a position to influence the country's macro-economic management and political decisions that affect the foreign exchange risk.

## **9. Partner Comments**

### *(a) Borrower/implementing agency:*

ASAT's comments are attached. ASAT considers that the five development objectives were met. ASAT rates the Bank's performance during preparation to have been "successful and satisfactory" and to have been "partially successful on technical assistance and successful on supervision." Among Lessons Learned ASAT signals the obstacle that the Bank correspondence in English reduces the effectiveness and participation of Borrower staff. With respect to the private sector participation ASAT offers a number of modifications that might have turned the private operator contract into a "win-win" scenario in contrast to what it became: a "lose-lose" scenario where both ASAT and the private operator lost.



One may ask whether ASAT and political bodies in Antalya took all required decisions for introducing and implementation of PSP or not? The answer is crystal clear and simply yes. Neither ASAT nor the political bodies ended the private operator contract but the private operator's itself went into liquidation and deserted from its duties. However, the burden was placed on ASAT in draft ICR by the Bank.

According to Bank's opinion the private operator's desertion is mainly due to ASAT's decision not to be agree to "adjust" contract prices.

*"The adjustment request was permissible within the contract (Section 2.2) that allowed that '... at the end of fifth year of the Contract the Employer/supervisor and Operator will discuss the possibility ... and inclusion, by the agreement of the Parties of the right to renegotiate prices.' However, ASAT did not agree to discuss to adjust contract prices."*<sup>3</sup>

The complete version of second paragraph of Clause 2.2 of the operating contract is reproduced below for better understanding of the case:

***"It is specifically stated that there will be no negotiation of the Contract prices or duration, unless at the specific request of the Employer. However, at the end of the fifth year of the Contract, the Employer / Supervisor and the Operator will discuss the possibility of eliminating compensation events from the Contract" and the inclusion, by agreement of the Parties, of the right to renegotiate prices.***<sup>4</sup>

Of course, the parties might have discussed the possibility of the right to renegotiate prices after 25 November 2001, but this discussion should also interrelated with the occurring of Compensation Events. If any compensation event has occurred and caused an increase of cost, it should have been submitted to ASAT pursuant to the Contract Clause 13. Otherwise there is no reason and contractual basis to discuss the Contract prices as stated in the Contract Clause 2.2.

After receiving ANTSU's (former private operator, a subsidiary of Ondeo Services) request to negotiate the fees, ASAT consulted to its legal adviser and obtained a legal opinion on the subject. The English translation of this legal opinion is given in Enclosure 1 for the information of the Bank.

It is worth to mention what was requested by ANTSU as a fee for the second five year period of the contract in comparison with the original fee rates.

**Table 1 – Comparison of ANTSU's request and original contract fee (base 1997 prices)**

Years	Water		Wastewater	
	Original Fee	ANTSU's Request	Original Fee	ANTSU's Request
6 (2002)	13.732 TL	34.000 TL	2.214 TL	25.500 TL
7 (2003)	12.954 TL	29.000 TL	1.846 TL	21.750 TL
8 (2004)	12.766 TL	28.000 TL	1.784 TL	21.000 TL
9 (2005)	12.519 TL	27.500 TL	1.723 TL	20.625 TL
10 (2006)	12.195 TL	29.000 TL	1.669 TL	21.750 TL

<sup>3</sup> Page 10, Section 4.5 'Institutional development impact'

<sup>4</sup> emphasise added, this emphasised sentence is omitted in the Bank's draft ICR.

<sup>5</sup> Second paragraph of Clause 2.2 of the operating contract.

The above table is self explanatory and it can be said that what ANTSU requested was not an “adjustment” but a major increase in the fees amounting to more than 10 times for wastewater and more than 2 times for water.

It is very disappointing to read the Bank’s one sided judgement defined in the last sentence of above given paragraph: “However, ASAT did not agree to discuss to adjust contract prices”. We think that this judgement could only come from misunderstanding of what happened during that terms and not reading the contract clause 2.2 in careful manner together with other clauses of the contract. This clause is also contradicting in totality with the Bank’s note which is reproduced below:

*“NOTE: The ICR merely intends to record the facts of the private operator contract and take no position on which party, ASAT or ANTSU, is to blame for the contract difficulties, including the termination. The Bank should not be perceived in any way as wishing to influence the outcome of the arbitration proceedings that are scheduled by June 30, 2004.”<sup>6</sup>*

We do not want to go into too much detail of interpretation of the contract clause 2.2 since it is one of the subject of ongoing arbitration<sup>7</sup> however we kindly suggest the Bank to review both ASAT and ANTSU’s submissions to the Arbitral Tribunal for better understanding of what happened in Antalya case as a PSP experience. There are lots of lessons to be learnt from Antalya case for all parties interested in PSP contracts.

If we come back to “political support” aspect, we would like to reiterate that ASAT and political parties took all required decisions for introducing and implementation of the PSP. When ANTSU deserted from the contract ASAT took the operation services by a decision from ASAT’s executive board and the decision clearly defines this operation as “temporary operation”.

If the objective is to have private operator, then the Bank might be correct to say that “this objective (objective b) was not met” but if the objective is to have efficient operation with high quality of service then the Bank’s assessment is not correct. We believe that introduction of PSP into the operation services is not an objective but a tool to obtain optimum operation cost.

Additionally, one of the recent World Bank study report indicates that PSP is not a *sine qua non* for efficient operation and improving service quality.

*“3.52 On average, Table 13 shows that Bank projects—with or without private sector participation—produced improvements in all the indicators. The changes are quite similar for the two groups of projects with a slight edge for PSP projects in areas such as quality and efficiency indicators. The relatively small differences support the conclusion that PSP is not a *sine qua non* for improving service coverage and quality, and the efficiency and sustainability of services. The question of how long the improvements will last is difficult to answer since both PSP- and non-PSP-assisted*

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<sup>6</sup> Page 5, Section 4.1 Outcome/achievement of objectives, objective (b)

<sup>7</sup> We would like to repeat our note on ongoing arbitration given in Page 1 of our Project Evaluation Report dated November 2003.

*“Additionally, we have tried not to make “one sided” judgement on private operator contract and its situation since there is an ongoing arbitration between ASAT and former private operator, namely ANTSU (a subsidiary company of Ondeo Services). But, it was not possible and at the same time would have no meaning to complete this report without saying anything on the Private Sector Participation experience lived in Antalya.”*

projects were monitored during a relatively short period, before and after the take-over by a private operator and before and after the assistance provided by the Bank.<sup>8</sup>

The Bank emphasise in draft ICR that "The ICR rates the overall IDI from the private operator as 'negligible' since ASAT is operating the system with much the same technical and commercial efficiency as ANTSU<sup>9</sup>."

The water tariffs are defined by municipal council which is at the same time the general assembly of ASAT. The assembly is constituted of members from elected member. Therefore, the tariff level is one of the most important indicator for political support. The below table 2 is presents water tariffs for domestic consumers in different cities of Turkey.

Table 2 – Comparison of Domestic Water Tariffs in Turkey (in descending order of tariffs)

Name of the Water Authorities	Domestic Water Tariff* (in TL)
ISKI – İstanbul Water Authority	1.362.000
ASAT - Antalya Water Authority	1.350.000
GASKİ - Gaziantep Water Authority	1.300.000
BUSKİ – Bursa Water Authority	1.045.000
ASKİ – Adana Water Authority	892.000
İZSU – İzmir Water Authority	883.051
KASKİ – Kayseri Water Authority	667.000
ASKİ – Ankara Water Authority	559.627
İSU – İzmit Water Authority	465.000
KOSKİ – Konya Water Authority	389.000

\* The figures are taken from web sites of relevant water authorities and represents current minimum domestic consumer tariffs prevailing at the time of preparation of this report. The exchange rate is 1 \$ = 1.350.000 TL.

The level of water tariffs is self explanatory and indicates the support from political bodies in Antalya.

Under the light of above brief explanations we believe that objective (b) of the project was met.

#### **Size of the project and payment capacity of the city (Objective c)**

The second point emphasised by the Bank on the design of the project is related with the size of the project and payment capacity of the city with respect to the project size. The Bank thinks that the project was too big for the payment capacity of Antalya.

On this subject we would like to clarify a few points. Firstly the size of the city is important but it should be taken into account with total assets owned by the water utility. Because the revenue generation is done through the services provided by those assets. In Antalya case, as well known, ASAT had no assets for wastewater operations before the project. This is a clear indicator of necessity for wastewater investments. At the same time, it was not possible to generate revenues since there was no wastewater assets. On one side the city needs investment but on the other side the city has no assets to generate revenue for those investments.

<sup>8</sup> Operations Evaluations Department, The World Bank, Efficient, Sustainable Service for All?, An OED Review of the World Bank's Assistance to Water Supply and Sanitation, Report no. 26443, September 1, 2003, page 27

<sup>9</sup> Page 10, Section 4.5 "Institutional development impact"

This dilemma can only be solved by utilisation of long term loans and/or subsidy for investments. The total water and wastewater investments made by central government in Antalya city constitutes only around 10% of total existing water and wastewater investments which indicates that the aid from central governments is very limited. All other assets were procured through ASAT's own revenue generations, from water sales and wastewater collections services. In reality ASAT has been paying the cost of investments done by central government through its Iller Bank shares.

According to Table 3 of draft ICR, ASAT's contribution to the investments is \$ 63,9 which corresponds to 31% of total investment costs. This figure presents ASAT's contribution during the implementation but ASAT has already re-paid parts of the loan and when this payments are taken into account total expenditure of ASAT is almost US\$ million 100 for the period between 1997 and 2003.

Nowadays the minimum water tariff -excluding VAT- is \$ 1 per cubic meter of water whereas the average tariff is around \$ 1,20. This value of tariff as also stated in draft ICR<sup>10</sup> is an internationally high level. Although the tariff rate is such a high in Antalya, ASAT had lived difficulties to do its debt services directly to the World Bank and EIB. In our letter dated on January 31, 2003 to the Bank we have presented the ratio of an average water invoice to household income of Antalya citizens according to statistics published by State Statistical Institute (SSI). The study shows that expenses for water is reaching up to 8% of 80% of Antalya citizens' household income.

The Undersecretariat of Treasury publishes the debts of institutions to the treasury including local authorities<sup>11</sup>. The tables issued by the treasury is also referred by the draft ICR. According to treasury' publications, ASAT has no overdue debt to the treasury and total debts of ASAT per total population of Antalya is around \$ 10.

It won't be wrong to discuss whether the access to water is Human Right or not. And if it is, then water projects should not be designed based only on payment capacity of the people.

We are still in the opinion that the objective (c) was successfully met under the unique conditions of Antalya.

**Unaccounted for Water (Objective d)**

The estimates of UFW in SAR is given as 46% and this value was proved incorrect in later stages. Most likely this value corresponds only to the physical losses in the network but does not include commercial losses. Later studies carried both by ASAT and ANTSU provide more correct figures for UFW at the beginning of the project. According to those studies UFW value was around 66% as total of physical and commercial losses. Therefore it would not be correct to say that "Unaccounted water rose from 46% as estimated at the time of appraisal to an average 63% in the 2001-2003 period."<sup>12</sup>

The breakdown of UFW at the beginning and at the end of the project period is presented in the following table:

Years	Physical Losses	Commercial Losses	UFW
1996	46 %	20 %	66 %
2002	39 %	24 %	63 %

<sup>10</sup> Page 5, Section 4.1 Outcome/achievement of objectives, objective (c)

<sup>11</sup> The complete tables issued by the treasury can be found in the following web address <http://www.treasury.gov.tr/english/publicfinance.htm>

<sup>12</sup> Page 6, Section 4.1 Outcome/achievement of objectives, Objective (d)

UFW has been reduced but this reduction was not in line with expected amounts. As we said in our Project Evaluation Report, the reduction of UFW is one of the highest priority of ASAT and we are paying special attention to the reduction of UFW for the next period.

In general words, the Bank's assessment says that the project was not designed well but both parties undertook their duties in a "marginally successful" manner however this was not enough to obtain "successful" outcomes because of non-existence of enough political support from the borrower side and the project was big for the capacity of Antalya.

Frankly speaking this is a way of expression to put all burden, if any, on ASAT and the Bank's assessments has many contradicting ideas as clarified above. That's why, it is not possible for us to agree with the Bank's assessments.

There are some other points needs to be corrected in ICR, we are providing an important one related with stormwater.

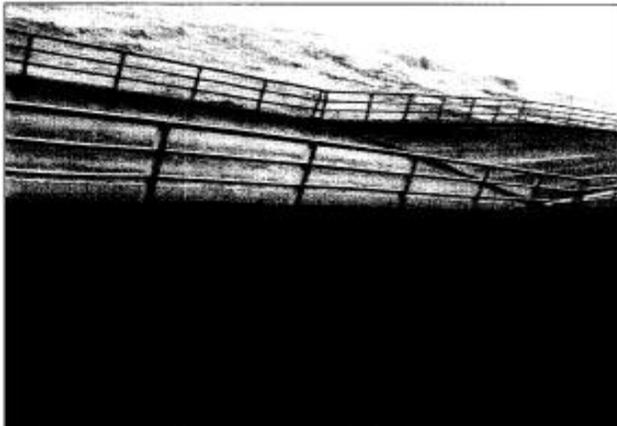
#### **Stormwater**

The draft ICR says that:

*"Stormwater drainage is not a major problem in Antalya because of the city's favourable topography with good natural drainage. As a consequence flooding never became an issue."<sup>13</sup>*

Stormwater is in fact one of the major infrastructural problems of Antalya. It is correct that Antalya's topography is suitable for drainage, especially due to porous travertine rocky formation. However, the city developed very rapidly which made the surfaces more impervious and as a result the surface flowing increased and the flooding became a major problem for almost last five years. The below photograph of a collapsed bridge was taken during the flooding occurred on December 26, 2003.

**Figure 1 Collapse of Boğacay Bridge due to December 2003 flooding.**



The December 2003 flooding in Antalya was announced as "disaster" and consequently the city was awarded for being "disaster area" by a decision of ministers council. According to Law no. 2560, ASAT has duties related to stormwater drainage and now taking immediate measures against flooding. This measures follows the master plan study prepared under Contract 30 and mainly comprise construction of some channels and culverts within the city area.

<sup>13</sup> Page 5, Section 4.1 Outcome/achievement of objectives, Objective (a)

We believe that the assessments of draft ICR should be re-thought carefully under the light of above explanations and others. We are ready to cooperate with the Bank's staff to review and discuss the draft ICR in detail of every aspects of the project.

We look forward to hearing from you.

Yours sincerely,



A. Fatih ONAL  
General Manager

Enc. : Legal opinion on Contract Clause 2.2 of the operating contract

Cc. : Undersecretariat of Treasury

**English Translation of  
Legal Opinion on Contract clause 2.2 dated on September 24, 2001**

**A. Subjects Involving Article 2.2 of the Contract**

1. The Operator, for the time being, has no right to re-negotiate the service fees.

Actually and speaking practically, the Operator has no right to ask for the increase of the service fees. Pursuant to article 2.2, the service fees, as a rule, shall not be changed throughout the period the Contract is in force. The Operator has, by relying on the second sentence of article 2.2, only the opportunity to ask for the inclusion of a clause to the Contract that will enable him to require the amendment of the yearly service fees.

A request to negotiate such an amendment may, pursuant to article 2.2, only be made, after the fifth year of the Contract. Therefore, the Operator may make such a suggestion only after 26<sup>th</sup> November 2001.

2. The Employer can acknowledge to the Operator the right to re-negotiate the service fees at the earliest on 26<sup>th</sup> November 2001.

By way of confirming what we have said hereinabove, there exists no right concerning the re-negotiate of the service fees. The Contract, through article 2.2 allows not only the Operator but both sides to propose to start negotiations with a view to include in the Contract a clause that may enable the Parties to re-negotiate the yearly service fees.

3. The provision contained in the second sentence of article 2.2 was thought as a counter balance for the basic rule that the fees shall remain constant during the Contract period. The Contract was signed for ten years and it is quite likely that events that may adversely affect the costs of the Operator may materialise during this period. Taking into regard the likelihood of such events, article “13 Compensation Events” was included in the Contract, so that any loss that the Operator may suffer due to certain pre-defined events could be compensated.

Consequently, in case the option of amending the Contract to include an article providing for the increase of the service fees, article 13 “Compensation Events” shall have to be deleted.

The legal regime governing the price structure of the Contract has been determined by article 2.2 and no material fact or event could create a ground to change these service fees. Furthermore, since articles 2.2 and 13, created a particular balance between themselves, any discussion concerning the modification of price structure should take into account this interrelation.

4. Only the Employer may concede to the Operator the option of starting negotiations involving the service fees. Pursuant to article 2.2 both Parties have the right to ask for the inception of negotiations concerning the inclusion in the Contract a provision which shall provide for amending the service fees. The Employer has the right to invite the operator to negotiate for the insertion of a clause allowing the Parties to make changes in the service fees, although the Operator made no request under article 13. In the event the Operator accepts such an offer, it may, ultimately become possible to insert a clause in the Contract to this effect and article 13 shall be removed from the Contract. Subsequently, the Employer may suggest the lowering of the service fees.

5. Article 13 was inserted in the Contract to protect the Operator against any possible damage occasioned while discharging the duties stipulated by the Contract or fulfilling a request from the Employer. Only the occurrence of the events recited through “a” to “k” under article 13 may give rise to the application of article 13. Events that were not specified in article 13 shall not provide a ground for a claim by the Operator. Moreover, the occurrence of these events must have caused an increase in the costs of the Operator. In addition to these conditions, the increase in the costs must have direct connection with the discharge of the duties by the Operator assumed under the Contract.

In order to claim compensation under article 13, the Operator must first prove his case. However, the Employer has also the right to conduct a separate investigation and challenge the claim by the Operator.

The Operator is under obligation to mitigate the effects of any event recited in article 13 and therefore strive to reduce the damage it may consequently suffer. But, in the meantime is also bound to proceed with performing its obligations arising from the Contract. In case the Operator neglected to take such measures, then the compensation it may eventually be entitled to receive shall be proportionally reduced.

6. The compensation envisaged by article 13 should be paid at once. However, based on agreement between the Parties, such compensation may be divided into instalments and paid together with the service fees. But, the payments under article 13 have a distinct nature and are entirely different from the payment of regular service fees.

Taking this into regard, I recommend that payments under article 13 should be distinctly separated from the service fees and no new price structures and/or categories that were not envisaged by the Contract be created.



**ANTALYA**  
**WATER SUPPLY AND SANITATION PROJECT**  
**PROJECT EVALUATION REPORT**  
**for**  
**PHASE I**  
**(covering the period 1995 – 2002)**  
**by**  
**Antalya Water and Wastewater Administration (ASAT)**  
**in association with**  
**ALDAS Infrastructure Management and Consultancy A.S.**

**November 2003**

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### Introduction

#### **1.1 Method of Preparation and Structure of the Report**

This report has been prepared in cooperation with ALDAS A.S. and aimed to provide a clear picture of what happened in Antalya Project from the point of borrower, namely Antalya Water and Wastewater Administration (ASAT). During the preparation of the report a series of interview with participants to the project were carried and consolidated ideas are presented here.

For the aim of producing an objective report, we have decided to prepare the report based on the log-frame approach. Unfortunately, no log-frame matrix were prepared for the assessment of the project during the preparation of the feasibility study. This made us to produce one based on presentations given in Staff Appraisal Report and Feasibility Study of the Project. Therefore, we will call above mentioned log-frame as post log-frame.

Additionally, we have tried not to make “one sided” judgement on private operator contract and its situation since there is an ongoing arbitration between ASAT and former private operator, namely ANTSU (a subsidiary company of Ondeo Services). But, it was not possible and at the same time would have no meaning to complete this report without saying anything on the Private Sector Participation experience lived in Antalya.

We desire and expect fair judgement from the arbitration tribunal and believe that only obstacle to have a fair judgement could be some external effects to the tribunal. The truth should come into light and this will present a better way for all stakeholder including all other water authorities planning to introduce PSP into their services. The decision of the tribunal is expected to be issued by the end of June 2004.

We would like to emphasise that this is “mid-term” evaluation of the project since we have only completed the first phase of AWSSP which covers the period between 1995 and 2002. We intend to prepare a more detailed and comprehensive report within the year 2004, and that report will be basis of next phase implementations.

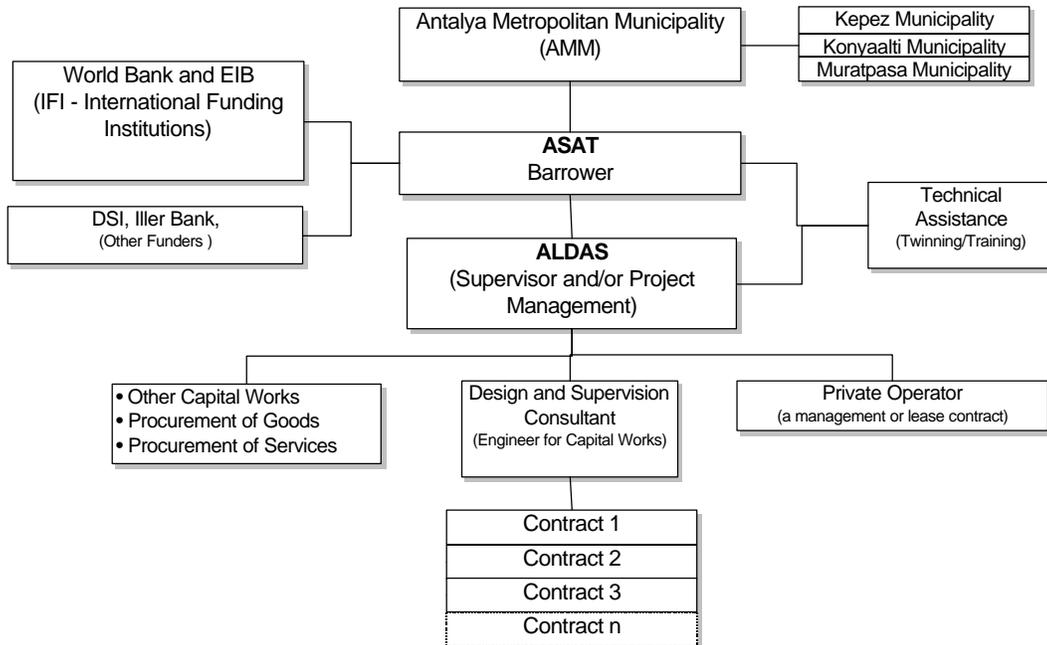
### 1.2 Understanding Proposed Institutional Structure for “Antalya Project”

A special institutional structure were developed for the project and it was one of the main characteristic of the project. The concept of introducing a joint stock company (ALDAS), which supersedes the conventional PMU, into the institutional structure is unique in the Turkey.

Antalya Municipality were awarded for metropolitan municipality status in September 1993 and it works under Law 3030. This law requires establishment of autonomous water and sewerage authority and ASAT was, as a result of becoming metropolitan municipality, established in February 1995.

However, ALDAS were established as a loan condition and is unique within its context in Turkey. ALDAS was incorporated under the commercial code and it is jointly owned by ASAT, Metropolitan Municipality, District Municipalities and Antalya Trade and Industry Chamber. Majority of ALDAS’s shares (95,4 %) is owned by ASAT.

**The proposed institutional structure for Antalya Project is presented in below chart:**



Both ASAT and ALDAS are quite “young” institutions and AWSSP is the first comprehensive project carried by them. It should also be kept in mind that this was the first time for ASAT to utilise a loan for its infrastructure investment and institutional structuring

### 1.3 Some Basic Data on “Antalya Project”

The data and tables provided to the Bank for the preparation of its Implementation Completion Report will not be repeated here, however a brief table was produced and inserted into this report in order to present a comparison of the situation before the project and after the project.

**Table 0-1 Basic Data - Comparing the situation before and at the end of the first phase of project**

	Unit	1995	2002
Population		475.00 0	660.00 0
Employee per 1000 subscriber		3,09	1,18
Operation Revenues	million \$	10,6	24,5
Total length of water network	km	1100	1500
Mapped water network	%	25	100
Total length of sewer network	Km	---	550
Mapped sewer network	%	---	100
NRW – Physical	%	45	37
NRW – Commercial	%	20	22
Collection Ratio (based on billed m3)	%	82	84
Average Tariff Rate	\$	0,52	0,84

## Project Objectives

### 2.1 Achievement of Overall Goal of the Project

Overall goal of the project, based on the feasibility study, can be summarised as follows:

“to provide quality water supply and sanitation services, including institutional strengthening of the administrative organisation on a long term basis for citizens of Antalya, while at the same time meeting increasing environmental concerns and enhance the growth of the tourism industry on which much of the local economy is based.”

AWSSP has contributed to the development and improvement of ASAT both technically and institutionally.

The list of the technical improvements -physical outcomes of AWSSP- can constitute many pages but brief of it includes; modernisation of water production facilities, production of water network maps in digital format, rehabilitation of water transmission lines and construction of a wastewater system. These are the outcomes of the AWSSP and which could not be obtained without AWSSP.

Today, ASAT is an institution who can generate noticeable amount of revenues through its services. The yearly revenue of ASAT increased from \$ 10,6 million to \$ 25 million during

Today, ASAT is an institution who can generate noticeable amount of revenues through its services. The yearly revenue of ASAT increased from \$ 10,6 million to \$ 25 million during AWSSP period. ASAT is, now, able to do investments by its own revenues and it is one of the authority out of 15 in the country who has no overdue debt services to the treasury.

ASAT could not do its debt services to IBRD and EIB directly due to its cash flow balance. However, ASAT has paid its debts to treasury (guarantor) and yearly payment made by ASAT is higher than its yearly debt services. It is thought that cash flow balance will be stabilised within year 2004 since there will be less expenditures for investments with respect to previous years.

Occurrences of waterborne diseases in Antalya city was lower than country average and now even much lower. In fact, no epidemiological illness were reported due to quality of urban water during the last years.

All the beaches around Antalya city has now “blue flag” which is a good indicator for seawater quality as well as enhancements in tourism industry. Total number of tourists visiting the city is getting more and more and records of previous years are broken every year.

We are in the opinion that main goal of AWSSP has been achieved.

## **2.2 Achievement of the Project Objectives**

Five objectives defined in SAR are repeated below:

### ***(a) meet at least cost the demand for water supply, sewerage and stormwater drainage;***

The operation cost of water supply has been reduced by means of outcomes of AWSSP, specially renewal and/or rehabilitation of water supply facilities. Additionally, better management practices also decreased the operational cost of water supply. Number of employee per thousand customers has been reduced from 3,5 to 1,18 The achievement is even better than expectations because the target set in SAR section 5.03 is 1,8.

The ratio of sewerage area to the total area of Antalya city is 35 % whereas as the population lives in the sewerage area is 45 % of the total population.

Since there were no wastewater system before the project, we can not compare the existing operation cost, however the existing cost is in line with the predictions made in feasibility study. Therefore, one can easily say that the sewerage investments were done both efficiently and effectively.

The stormwater drainage investments mainly started in 2002 and now under progress. The investments were prepared based on Master Plan Study completed in November 2000.

Therefore, it is our assessment that this objective of the project has been satisfied.

### ***(b) develop new institutional arrangements for management of municipal water supply, sewerage and stormwater drainage, and to introduce private sector participation in the operation of the services;***

As we mentioned in above sections, the thing which makes Antalya Project unique is its proposed institutional structure and this special institutional structure were developed satisfactorily. ASAT undertook all of its responsibilities for achieving this. However, establishment of “Sirket” (ALDAS) and introduction of private sector participation into the operation services were the pre-conditions of the loan, and therefore it might not be a correct way to do assessment based on *development* of new institutional structure.

We think that the extent of support and sustainability to this new –and unique to Antalya-

We think that the extent of support and sustainability to this new –and unique to Antalya- arrangement is better indicator for the assessment of this objective.

The PSP were supported by both politicians and high level decision makers of ASAT. ASAT's general assembly took all required decisions to introduce PSP and ASAT's executive bodies followed the decisions.

The private operator contract was tendered in early 1996 and a management type of contract for ten years duration was signed in November 1996. The private operator was in service till May 2002 when they went into liquidation.

We prepared a ToR for the consultancy services for re-hiring a private operator in November 2002 but the services were not awarded due to the then existing situations. It was decided to suspend the study during the ongoing arbitration.

Therefore, it is our assessment that this objective of the project has been satisfied.

***(c) implement appropriate cost recovery policies;***

The ratio of operation cost to revenue (financial working ratio) was around 32% in 2002.

The micro economic crisis happened in early 2001 in Turkey effected the cash flow balance of ASAT. ASAT's revenues are based on Turkish Lira whereas its debts to IBRD and EIB are in US \$ and Euro, respectively. The dramatic increase in exchange rates in 2001 had negative effect on the cash flow of ASAT.

ASAT properly made its contributions to all investments during the course of the project and has been doing its debt services since 2000. Some part of the debt services were done by treasury due to cash flow problems.

The last four years average expenditures of ASAT for investments and debt services is more than \$ 15 million and in addition to this amount ASAT had to incur some unexpected expenditures like the costs of taking over of the operation services due to liquidation of former private operator. The debt services of ASAT to be due in 2004 to the treasury and financiers are in total less than \$ 13 million.

Unfortunately, there were no improvement in collection ratio between 1997 and 2002. An improvement is expected in collection ratio which is extremely important for the financial performance of ASAT.

Under the existing conditions, it is planned to stabilise ASAT's cash flow in 2004 and then ASAT will be able to do its debt services directly to the IBRD and the EIB without requesting any restructuring from the treasury. It is worthy to say here that ASAT has no overdue debt to the Treasury.

Therefore, it is our assessment that this objective of the project has been satisfied.

***(d) postpone the need to develop costly new water resources by improving the efficiency of utilization of existing sources and of water usage by reducing the volume of non-revenue water which is presently too high (46 percent);***

The latest water supply study carried out by DSÝ (State Hydraulic Works) showed that there is no need for surface water resources for the city of Antalya at least till year 2010 and the need for new sources can be easily extended till 2020 with some more improvements in the system efficiency. All the existing water sources were protected against contamination and production facilities were improved as an outcome of AWSSP. Inefficient wells were closed and/or abandoned since there is no need to them. Some well field areas, like Bogacay, is not used with the full capacity at the moment.

This objective mainly were satisfied but the level of NRW, unfortunately, is still high with respect to expectations and plausible targets. There were no improvement in reduction of commercial part of NRW which was the responsibility of the private operator during the period starting in 1996 and ending in 2002. One of the highest priority of ASAT is to reduce both physical and commercial part of NRW to a reasonable level in shortest possible term. Therefore, it is our assessment that this objective of the project has been satisfied at the moment but special attention should be given to the reduction of NRW in next period.

*(e) improve and sustain environmental conditions and reduce health hazards that threaten the local population and the tourism industry by: (i) eliminating deficiencies in the collection and disposal of municipal sewage; and (ii) improving stormwater drainage in areas suffering seasonal flooding*

AWSSP has fully successful for this objective. The quality of potable water has been protected and no samples tested by ASAT or other independent institutions showed a bad quality of water up to now.

A biological treatment plant which was not planned within the scope of AWSSP was also constructed by ASAT's own financial resources and the system is providing even more protection of environment than expected. All the beaches around Antalya has been awarded for "blue flag" in 2003. The seawater quality monitoring studies carried by University of Mediterranean, Antalya has showed that the quality of seawater is much better than standards.

There were very limited amount of stormwater drainage investments in original plan of AWSSP. A master plan for stormwater drainage was prepared and some investment based on the master plan were launched by Antalya Metropolitan Municipality and District Municipalities in 2002. Nowadays there is an intensive work carried out by AMM, DMs and ASAT for eliminating flooding problems and special attention is given to the high risk areas of the city.

AMM has completed the construction of solid waste landfill area and it was commissioned in year 2003.

Therefore, it is our assessment that this objective of the project has been satisfied.

## Appraisal of ASAT/ALDAS and the Bank's Performance

### **3.1 ASAT/ALDAS's Performance**

We feel that it would be difficult to make an objective assessment on the performances of ASAT and ALDAS without taking into account that both of them are quite "young" institutions and were inexperienced on working for such a comprehensive internationally financed project.

#### **3.1.1 Political Performance**

As duration, the project covers the terms of two different political administrations who ruled and provided the municipal services of Antalya. The former administration –True Path Party– was in power till 1999, and it is the one who initiated the AWSSP. The second administration – Republican People's Party – was started in 1999, and it is the one who completed the

– Republican People's Party – was started in 1999, and it is the one who completed the AWSSP.

Tariff level is a good indicator for political support since it is determined by the general assembly which is constituted by elected members. The general assembly has always kept the tariff level within the limits ensuring cost recovery and financial viability during both terms. The general assembly also took all required decisions for the proper and smooth implementation of the project, like hiring a private operator.

Furthermore, the project was exposed to criticism time to time by politicians and even peoples of Antalya. Nobody up to now said that there is no need for the project however they have expressed their ideas on how it should be and this can not be taken as a worse thing but as willingness of participation of the stakeholders to the project. It is our opinion that every kind of participation should be welcomed.

In the case of no political support exist, it would not be possible to start and complete such a comprehensive project. Therefore, we are in a position to say strongly that both administrations have supported the project.

### **3.1.2 Institutional Performance**

ASAT, as the borrower, fulfilled all of its responsibilities defined in Loan Agreement, SAR and the feasibility study related to development of the institutional model.

ALDAS could not take over all managerial responsibilities of ASAT due to some legal and social constraints. During the course of the project this kind of gaps were filled properly and restructuring was made.

ASAT and ALDAS did work, in some cases, like an single entity by sharing the responsibilities. ASAT as a successor of ASO (Antalya Water Supply and Bus Department) had important experience and knowledge on the existing water supply system and commercial side – e.g. customer services – of the services whereas ALDAS had opportunities to hire high calibre staff who has fluent English and experienced on such a complicated projects. These two advantages were combined for achieving the objectives.

ASAT and ALDAS would have totally 15 staff according to SAR, this was not enough to undertake all responsibilities defined in the contracts and imposed by the legislations.

After the escape of former private operator, ASAT took the operation services. ALDAS is now mainly dealing with completion (Final Acceptance) of some capex contracts, ongoing arbitration on private operator contract and also providing some consultancy services to ASAT. ALDAS has also started to do the programming of next phase of the project.

### **3.1.3 Technical Performance**

ASAT/ALDAS has executed the capital investment programme with due diligence.

Although it is not easy to do that much of infrastructure investments within such a limited time period in a living city environment, the planned investments were completed within their time and budget. Additionally, the touristic characteristics of Antalya creates another difficulty to the infrastructure investments and this was overcome by proper scheduling of the works.

As result of obtaining very competitive prices in all tenders for capex contracts, physical outcomes of the project are even more than planned at the beginning. For example, total length of water and sewerage networks constructed is more than planned.

Some disputes between us and our contractors arose during the implementation of the capex programme but all of them were dealt with properly within the conditions of their contracts

programme but all of them were dealt with properly within the conditions of their contracts and at the end the disputes were settled amicable. Involvement of commercially oriented company (ALDAS) has contributed greatly to overseeing potential problems and taking remedial actions. Many problems were solved before they happens by taking proper remedial actions. ALDAS's involvement increased the achievements in technical outcomes of the project.

### **3.2 The Bank's Performance**

We feel that it would be difficult to make an objective assessment on the performances of the Bank without taking into account the general rules and conditions of the Bank. Therefore, the assessments made in this section were done mainly within this context.

#### **3.2.1 Performance on Identification (Preparation) and Appraisal of the Project**

The Bank's support to the project can not be disregarded, in fact the project could not be even started without its support.

We can say that "good start does not guarantee good implementation and completion but bad start certainly guarantee bad implementation and completion". Therefore, it is very important to start with correct definition and planning.

It was a very clever start and in fact *The Antalya Model* is certainly a product of clever mind. In the designation of model, all main risks and weak points which were on the Bank's mind were correctly addressed.

The concept of introducing a "commercially oriented company" (ALDAS) which supersedes the conventional PMU, into the institutional structure is one of the indicator of well designed institutional structure.

The detailed and comprehensive identification of capital investment programme is also praiseworthy.

We assess the Bank's performance on identification and appraisal of the Project as successful and satisfactory.

#### **3.2.2 Performance on Technical Assistance and Supervision during the Implementation**

The Bank has undertook its responsibilities successfully and satisfactorily with respect to supervision of the project implementation and its supervision were helpful for highlighting the potential problems which may occur during the implementation of the project.

Although, the Bank assisted to us in many areas; like assisting for proper procurement, overseeing the potential problems and defining the remedial measures for them eventually the Bank's extensive experience was not utilised fully. Unfortunately we have generally perceived the Bank as a supervision/monitoring body because of the Bank's approach to the project.

As a good example to the importance of the Bank's technical assistance, we would like to mention on October 2000 mission. The Bank's staff behaved like an mediator between us and our former private operator during the October 2000 mission and as a result the private operator provided their first comprehensive and acceptable system efficiency report in November 2000. This was followed by our new investment packages prepared based on the system efficiency report. The contract 13R1 and 13R2 –water network rehabilitation contracts- are the products of this joint study.

Contrarily, in the Bank's same mission report there is a judgement on customer information software to be provided by former private operator though no expert on that kind of software

software to be provided by former private operator though no expert on that kind of software and systems was a part of mission team. This judgement was used as an Exhibit by the former private operator for proving that the ICIS (International Customer Information Software) software was ready at that time. We assess the Bank's performance as partially successful on technical assistance and successful on supervision.

### Lessons Learned

The sequence of the lessons listed below does not imply their priorities.

## **4.1 Rethinking the Antalya Model**

### **(a) Private Involvement**

The Bank's expectations from the new institutional model is expressed in SAR section 3.05 as *"This would be a major step forward for the sector, as high expectations are placed on private involvement as an instrument to improve efficiency."*

It might have been better solution if different types of private sector participation were analysed in more detail because high expectation were placed on private involvement. In fact the expectations from private involvement were *too* high. Eventually, the former private operator left the project – we can also say that escaped from the job- with leaving almost all expectations in the air. The commercial part of NRW was not reduced during their term.

We must admit that as the water authority of Antalya, we have gained many valuable experiences through private operator experience. The private operator contract and existence of a commercially oriented company, namely ALDAS, proved to be more effective than having a standard twinning contract for establishing commercially oriented operation culture.

### **(b) Definitions in ASAT and ALDAS Relationships**

As ASAT will remain such a lean organization according to proposed institutional arrangement, ALDAS was expected to take much of the management of the legal obligations of ASAT. In other words, ALDAS were expected to play a key role in the new institutional arrangement. This structuring created some legal and social problems.

The condition set for total number of ASAT and ALDAS staff as 5 and 10 respectively seems unrealistic when we take into account the conditions imposed by related legislation and responsibilities of these two institutions defined in the contracts and/or Loan Agreements.

Another point is that ALDAS was expected to be kept away from the political influence but its executive board is constituted mostly by members from municipalities. In Antalya case the politicians did not even try to influence day-to-day operations but there is always a risk of it.

### **(c) Language of the Project Documents**

Almost all documents of the project were prepared in English language as a condition of the Bank's procedure, and this is an obstacle to the participation of most of the stakeholders.

Additionally, according to the Law No. 805, all institutions in Turkey has to keep all of their records and documents in Turkish, In the event of preparing any document in another language than Turkish those documents can not be used in the favour of that institution. Finally, there are some penalties (punishments) defined for entity who prepared any

Finally, there are some penalties (punishments) defined for entity who prepared any documents in contrary to the Law.

We propose that the documents shall be prepared bilingually –in English and in Turkish. This also provide more transparency in the tenders because most of the stakeholders has no ability to read and understand in English.

#### **(d) Rules and Conditions of the Bank**

The rules and conditions of the Bank may have been prepared to ensure transparency and competition but also creates an huge bureaucracy.

The four considerations which generally guide the Bank’s requirements are stated in Clause 1.2 of the Guidelines The Guidelines refers to “Guidelines Procurement under IBRD Loans and IDA Credits”:

*“ensure that the proceeds of any loan are used only for the purposes for which the loan was granted, with due attention to considerations of economy and efficiency and without regard to political or other non-economic influences or considerations,”*

.....

- a. *the need for economy and efficiency in the implementation of the project, including the procurement of the goods and works involved;*
- b. *the Bank’s interest, as a cooperative institution, in giving all eligible bidders from developed and developing countries an opportunity to compete in providing goods and works financed by the Bank;*
- c. *the Bank’s interest, as a development institution, in encouraging the development of domestic contracting and manufacturing industries in the borrowing country; and*
- d. *the importance of transparency in the procurement process.*

We are agree and support the approach and considerations of the Bank with respect to the transparent and efficient use of loans which are in reality public monies.

We are in the opinion that the main considerations should have precedence to detailed rules or procedures. The borrower as well as the Bank should have right to use initiative where the situation requires to use it for the aim of achieving objectives.

Additionally, the application of modern management techniques like project cycle management embody periodic evaluations/reviews as specific stages near completion. The experience gained during the implementation, together with additional recently collected data, is sometimes requires redesign and planning of the next stage of the capex programme. However, the Bank’s procedures is not flexible enough to redesign the next stage and generally it takes long time to obtain a “no objection” from the Bank for the revised/redesigned next stages.

The case of insertion of the construction of a biological treatment plant into the wastewater investment programme has a similar characteristics to the above mentioned approach. We have requested to construct a biological treatment plant as a result of some legal conditions and increasing requests from the people of Antalya. The Bank approached to the case positively and was prepared to consider financing of the plant and the amendment of the project description in the Loan agreement accordingly. But it was taking long time to complete procedural conditions of the Bank. Therefore, at the end, we have decided to do it by our own financial resources. The construction of the plant was completed in less than one year and it was commissioned in 2001.

Nowadays, there is a very positive perception of the plant by the people of Antalya and they are happy with the existing situation.

#### **4.2 Rethinking the PSP Experience**

The failure at private sector participation (PSP) in Antalya is well known by all parties. Instead of the ‘win – win’ scenario for both ASAT and operator expected from PSP, Antalya is now in a ‘lose – lose’ situation. There is an ongoing arbitration between ASAT and former private operator, namely ANTSU (a subsidiary company of Ondeo Services) at the moment. This unsuccessful experience did not change our confidence to Private Sector Participation in municipal water sector in fact we have gained valuable experiences for the future cases and we believe that this will be very helpful for achieving a successful Public Private Partnership. We are aware of the importance of the lessons learned from private operator contract. It is important for all stakeholders including all other water authorities planning to introduce PSP into their services. But, it is not possible – and fair- to list down all lessons learned due to our aim not to create any effect on ongoing arbitration. Therefore, we are giving only a brief list of lessons:

- a. There must be Shared Objectives which constitutes foundation to a right balance between Commercial Interests (private side’s main expectation) and Cultural Conditions (public side’s main expectation);
- b. Global experience does not guarantee success, it has to be reinforced with local knowledge;
- c. The implausibly low bids can be rejected;
- d. Performance-related reward system should be adapted; payments should be done only if performance standards are met;
- e. The full performance guarantee of shareholders should be provided within the contract (joint liability of shareholders);
- f. As strategic partner the private operator should assist in planning of investment programme for achieving better efficiency and must have responsibilities with respect to it.

### Sustainability and Future Operations

#### **5.1 Operation Services**

As a result of liquidation of former private operator, ASAT’s executive board took a decision at their meeting in May 2002 to take over the operation services *temporarily*.

At the moment water and wastewater services are provided by ASAT however ASAT is intended to do a study for preparation of a model and contract future Private Sector Participation.

A ToR for consultancy services was prepared based on option study in November 2002 after some discussions done within ASAT and with the Bank. The ToR requires phased approach and three phases defined in ToR are as follows:

Phase I : Data Collection and Review

Phase II. Development of PSP Options

### Phase III. Preparation of Tender Documents

This phased approach reflects the our idea on how should we do it in the next time in order not to **lose** again. ASAT formed study groups comprising personnel from different departments (customer relation, investments, GIS etc.) for preparing a schedule of the ASAT's expectations from a PSP contract. Selection of most suitable option will be done based on ASAT's expectations in conjunction with legal, financial and technical conditions.

There is also intensive studies carried by institutions of central government together with some IFIs on Public Private Partnership, e.g. the treasury's study which is under progress in cooperation with GTZ. We are aware that it will be important –both for us and for them– to coordinate our studies with other relevant initiatives.

### **5.2 Investment Requirements and Potential Means for Financing**

It is obvious that there is a need for financing the investments specially for the remaining part of wastewater system. The main finance will be ASAT's own resources however this does not seem enough to complete all investments in a shorter time period. Therefore, we are planning to provide some loan(s) from donors supporting the environmental and public health project.

The first step of our main plan for remaining part of the investments is to update the feasibility study. We have made some studies and completed reports are ready but it would be better to update all of them and define the most suitable solution.

### **5.3 Institutional Structuring**

ASAT is in dilemma for the institutional structuring; on one side ASAT took the operation services temporarily and on the other side ASAT has to do it at least for a few years.

The AWSSP has helped increasing the institutional strength of ASAT/ALDAS which is essential for better governance, but studies of ASAT –outside the scope of AWSSP- has been continued and a staff structuring and training programme has been developed during the last year in cooperation with University of Mediterranean, Antalya. The study aimed to provide best organisation structure for effective and efficient operation as well as detailed “job descriptions” of each positions defined in the organisation structure. The study will be sent to Ministry of Interior Affairs for approval after General Assembly's confirmation expected to be received in November 2003.

For the case of ALDAS, there is a mutual understanding that its valuable experience should be utilised however there are some uncertainties for detail description of its role in the future. The new Public Procurement Law (Law No.4734) does not allow municipalities to award a contract to a company owned partially or fully by them. ALDAS will not be able to enter any new tender of ASAT or Antalya Metropolitan Municipality, if no change will be made in the PPL.

The existing contract signed between ASAT and ALDAS will end in 2007. It is unclear that what will happen to ALDAS after the completion of its existing contract with ASAT. We are planning to restructure ALDAS in a way that it can enter bids of different public bodies; especially projects comprising the PSP in the operation of the services.

*(b) Cofinanciers:*

*(c) Other partners (NGOs/private sector):*

## **10. Additional Information**

## Annex 1. Key Performance Indicators/Log Frame Matrix

PROJECT OUTPUTS	Appraisal Estimate	Actual Status	Percentage of Appraisal
<b>CIVIL WORKS</b>			
<b>A. WATER SUPPLY</b>			
<b>Distribution Network (Rehabilitation &amp; Extension)</b>	500 km	629 km	126%
<b>Groundwater Wells</b>	24	18	N/A *
<b>Distribution Reservoirs</b>	40,000 m3	47,600 m3	119%
<b>New Pumping Stations</b>	2	2	100%
<b>Water Production</b>	2.6 m3/s	4.5 m3/s	173%
<b>B. SEWERAGE</b>			
<b>Facilities at Old city &amp; Industrial Area</b>	10 km	15.8 km	158%
<b>Sewage Network &amp; Collector Mains</b>	380 km	489 km	129%
<b>Preliminary Treatment Plant</b>	90,000 m3/day	160,000 m3/day	178%
<b>Biological Treatment Plant</b>	--	37,500 m3/day	--
<b>Sea Outfall</b>	4 m3/s	4 m3/s	100%

\* The required safe annual yield of groundwater ensured by 18 wells instead of the estimated number of 24 wells.

## Annex 2. Project Costs and Financing

### Project Costs by Component (US \$)

Components	TOTAL		
	Total Cost		% of Appraisal
	SAR	Actual	
<b>I. CIVIL WORKS</b>			
<b>A. WATER SUPPLY</b>			
Component Cost	99,498,000	53,335,846	53.60%
<b>B. SEWERAGE</b>			
Component Cost	103,249,000	125,728,384	121.77%
<b>CIVIL WORKS TOTAL</b>	<b>202,747,000</b>	<b>179,064,230</b>	<b>88.32%</b>
<b>II. EQUIPMENT</b>			
<b>A. WATER SUPPLY</b>			
Component Cost	8,669,000	3,238,347	37.36%
<b>B. SEWERAGE</b>			
Component Cost	1,679,000	263,255	15.68%
<b>EQUIPMENT TOTAL</b>	<b>10,348,000</b>	<b>3,501,602</b>	<b>33.84%</b>
<b>III. CONSULTANCY SERVICES AND ENGINEERING</b>			
<b>A. PROJECT IMPLEMENTATION</b>			
Component Cost	24,101,000	8,520,763	35.35%
<b>B. INSTITUTIONAL STRENGTHENING AND TECHNICAL ASSISTANCE</b>			
Component Cost	6,002,000	5,549,436	92.46%
<b>CONSULTANCY SERVICES AND ENGINEERING TOTAL</b>	<b>30,103,000</b>	<b>14,070,199</b>	<b>46.74%</b>
<b>IV. LAND ACQUISITION</b>			
<b>LAND ACQUISITION TOTAL</b>	<b>1,422,000</b>	<b>744,224</b>	<b>52.34%</b>
<b>V. BIOLOGICAL TREATMENT PLANT</b>			
<b>BIOLOGICAL TREATMENT TOTAL</b>	<b>--</b>	<b>7,894,551</b>	
<b>PROJECT COSTS</b>	<b>244,620,000</b>	<b>205,274,806</b>	<b>83.92%</b>

## Annex 3. Economic Costs and Benefits

### Economic Rate-of-Return Calculation for Antalya Water Supply and Sanitation Project

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007-33
<b>BENEFITS</b>													
<b>Water Supply</b>													
With Project Water Consumption, million cubic meters	20.3	20.9	21.4	23.6	24.8	25.2	26.5	26.6	28.6	28.6	28.6	28.6	28.6
Without Project Water Consumption, million cubic meters	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3
Incremental Water Consumption, million cubic meters	0	0.6	1.1	3.3	4.5	4.9	6.2	6.3	8.3	8.3	8.3	8.3	8.3
Average Potable Water Tariff, US\$ per cubic meter, including VAT	0.598	0.644	0.759	0.7935	0.782	1.15	0.736	0.966	1.15	1.15	1.15	1.15	1.15
Incremental Water Benefits Billed, US\$ millions	0	0.3864	0.8349	2.61855	3.519	5.635	4.5632	6.0858	9.545	9.545	9.545	9.545	9.545
Collections Ratio (Collections/Billings)	79%	82%	106%	94%	93%	88%	88%	88%	90%	90%	90%	90%	90%
Incremental Water Benefits Collected, US\$ millions	0	0.316848	0.884994	2.461437	3.27267	4.9588	4.015616	5.355504	8.5905	8.5905	8.5905	8.5905	8.5905
<b>Wastewater</b>													
With Project Wastewater Billings, million cubic meters, rising to 35% of water consumed	0	0	0	0	0	0	0	3.2	5	7	9	10	10
Average Wastewater Tariff, US\$ per cubic meter, including VAT	0.4485	0.483	0.56925	0.595125	0.5865	0.8625	0.552	0.7245	0.8625	0.8625	0.8625	0.8625	0.8625
Incremental Wastewater Benefits Billed, US\$ millions	0	0	0	0	0	0	0	2.3184	4.3125	6.0375	7.7625	8.625	8.625
Collections Ratio (Collections/Billings)	79%	82%	106%	94%	93%	88%	88%	88%	90%	90%	90%	90%	90%
Incremental Wastewater Benefits Collected, US\$ millions	0	0	0	0	0	0	0	2.040192	3.88125	5.43375	6.98625	7.7625	7.7625
Incremental Water and Wastewater Benefits Collected, US\$ millions in current prices	0	0.316848	0.884994	2.461437	3.27267	4.9588	4.015616	7.395696	12.47175	14.02425	15.57675	16.353	16.353
Consumer Price Index, for US\$	1	1.029	1.053	1.07	1.093	1.13	1.162	1.18	1.205	1.205	1.205	1.205	1.205
Incremental Water and Wastewater Benefits Collected, US\$ millions in constant prices	0	0.307918	0.84045	2.300408	2.994209	4.388319	3.45578	6.267539	10.35	11.63838	12.92676	13.57095	13.57095
<b>COSTS</b>													
<b>With Project</b>													
Operating costs, US\$ millions	5.9	5.7	10.5	9.4	7.9	7.4	5.6	8.2	10	10	10	10	10
Investment costs, US\$ millions	1.5	9.3	29.5	47.7	33.2	18.5	25.1	30.2	7.6	0	0	0	0
Total costs, US\$ millions	7.4	15	40	57.1	41.1	25.9	30.7	38.4	17.6	10	10	10	10
<b>Without Project</b>													
Operating costs, US\$ millions	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
Incremental costs, US\$ millions	1.5	9.1	34.1	51.2	35.2	20	24.8	32.5	11.7	4.1	4.1	4.1	4.1
Less 15% VAT on investment costs	0.225	1.395	4.425	7.155	4.98	2.775	3.765	4.53	1.14	0	0	0	0
Plus Central government subsidies on ASAT debt service to World Bank	0	0	0	0	0	0	0	0	0	0	0	0	0
Incremental costs after adjustments, US\$ millions in current prices	1.275	7.705	29.675	44.045	30.22	17.225	21.035	27.97	10.56	4.1	4.1	4.1	4.1
Incremental costs after adjustments, US\$ millions in constant prices	1.275	7.487852	28.18139	41.16355	27.64867	15.24336	18.10241	23.70339	8.763485	3.40249	3.40249	3.40249	3.40249
<b>Incremental Net Benefits</b> , US\$ millions in constant prices	-1.275	-7.179934	-27.34094	-38.86314	-24.65446	-10.85504	-14.64663	-17.43585	1.586515	8.235892	9.524274	10.16846	10.16846
<b>Incremental Rate of Return =4.3%</b>													

## Annex 4. Bank Inputs

(a) Missions:

Stage of Project Cycle	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)		Performance Rating		
	Month/Year	Count	Specialty	Implementation Progress	Development Objective
<b>Identification/Preparation</b>					
7/15-18, 1991	1	Economist			
11/21-12/1, 1991					
Dec-92					
4/5-19, 1993					
9/9-10/2/1993					
12/3-8/1993					
3/2-23/1994					
<b>Appraisal/Negotiation</b>					
6/27-7/11/1994					
3/23/1995	9	1 FA, 7 other specilaists, 1EIB co-financer			
<b>Supervision</b>					
06/18-20/1995	2	1 FA, 1 EGR	HS	HS	
10/30-11/7/1995	3	1 FA, 1 EGR, 1 PSD	S	S	
02/15-16/1996	4	2 FA, 1 EGR, 1 PSD	S	S	
05/29-6/14/1996	4	1 FA, 2 EGR, 1 PSD	S	S	
11/6-22/1996	5	2 FA, 2 EGR, 1 PSD	S	S	
06/2-12/1997	2	1 FA, 1 EGR	S	S	
12/15-17/1997	2	FINANCIAL ANALYST (1); ENGINEER (1)	S	S	
06/1-8/1998	2	FINANCIAL ANALYST (1); ENGINEER (1)	S	S	
11/30-12/7/1998	3	1 ECON/FA, 2 EGR	S	S	
05/2-10/1999	3	1 FA, 2 EGR	S	S	
10/29-11/6/1999	2	1 OPERATIONS SPECIALIST, 1 FINANCIAL ANALYST	S	S	
2/28-3/3/2000	2	SR. FINANCIAL ANALYST (1); ENGINEER (1)	S	S	
10/23-28/2000	2	1 FA, 1 EGR	S	U	
5/14-18/2001	2	1 FA, 1 EGR	U	U	
6/21/2001	1	1 FA	S	U	
7/13/2001	1	1 FA	S	U	
7/20/2001	1	1 FA	S	S	
10/6-8/2002	2	1 FA, 1 EGR	U	U	
10/15/2002	1	1 FA	U	U	
<b>ICR</b>					
9/10-23/2003	1	1 ECON/EGR	S	S	

(b) Staff:

Stage of Project Cycle	Actual/Latest Estimate	
	No. Staff weeks	US\$ ('000)
Identification/Preparation		\$ 689
Appraisal/Negotiation		
Supervision		\$ 789
ICR		\$ 20
Total		\$ 1,498

## Annex 5. Ratings for Achievement of Objectives/Outputs of Components

(H=High, SU=Substantial, M=Modest, N=Negligible, NA=Not Applicable)

	<u>Rating</u>				
<input type="checkbox"/> <i>Macro policies</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Sector Policies</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Physical</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Financial</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Institutional Development</i>	<input type="radio"/> H	<input type="radio"/> SU	<input checked="" type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Environmental</i>	<input checked="" type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA

### Social

<input type="checkbox"/> <i>Poverty Reduction</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Gender</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input checked="" type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Private sector development</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input checked="" type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Public sector management</i>	<input type="radio"/> H	<input checked="" type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA
<input type="checkbox"/> <i>Other (Please specify)</i>	<input type="radio"/> H	<input type="radio"/> SU	<input type="radio"/> M	<input type="radio"/> N	<input type="radio"/> NA

## Annex 6. Ratings of Bank and Borrower Performance

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HU=Highly Unsatisfactory)

### 6.1 Bank performance

#### Rating

- |                                      |                          |                                    |                                    |                          |
|--------------------------------------|--------------------------|------------------------------------|------------------------------------|--------------------------|
| <input type="checkbox"/> Lending     | <input type="radio"/> HS | <input type="radio"/> S            | <input checked="" type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Supervision | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U            | <input type="radio"/> HU |
| <input type="checkbox"/> Overall     | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U            | <input type="radio"/> HU |

### 6.2 Borrower performance

#### Rating

- |  |                          |                                    |                         |                          |
|--|--------------------------|------------------------------------|-------------------------|--------------------------|
| <input type="checkbox"/> Preparation                           | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Government implementation performance | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Implementation agency performance     | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |
| <input type="checkbox"/> Overall                               | <input type="radio"/> HS | <input checked="" type="radio"/> S | <input type="radio"/> U | <input type="radio"/> HU |

## **Annex 7. List of Supporting Documents**

Relevant information of supporting Bank and external project documents have been incorporated in the main text and in annexes. However, the following documents were also analyzed:

World Bank/OCDE Roundtable, Presentation by ANTSU on the Antalya Water & Wastewater Contract Paris April 2002

Operator Contract between ANTSU and ASAT signed in November 1996

Payments Undertaken Due to the Treasury Guarantees, Statistics produced by the Turkish Treasury

Monitoring of Seawater Quality Around Antalya Sea Outfall, Reports produced during the period 1999-2003 by the Environmental Engineering Department, Faculty of Engineering, Akdeniz University

## Additional Annex 8. Project Components in the Loan Agreement and Status of September 2003

### ANTALYA WATER SUPPLY AND SANITATION PROJECT COMPONENTS IN THE LOAN AGREEMENT AND CURRENT STATUS

		<b>SAR and LOAN AGREEMENT SCHEDULE 2 REQUIREMENT</b>	<b>CURRENT STATUS</b>
<b>PART A : Water Supply Works</b>			
1		Rehabilitation of existing distribution networks by replacing unsatisfactory sections.	Completed through C11, C12, C13R1 and 13R2.
2		Construction of about 24 new wells and replacement of about eight pumps at pumping stations to increase the production of three well fields.	18 wells drilled and equipped in Durailier well field under C15. Due to contamination problems detected at Pinarlar well field area, C16 has not considered to be tendered.
3		Construction of about 40,000 m3 capacity distribution reservoirs to provide storage capacity to meet water demand.	47,600 m3 capacity reservoirs were constructed under Contract 11 by ASAT and DSI has constructed 60,000 m3 capacity reservoirs.
4		Replacement and extension of about 500 km of existing distribution networks to supply consumers, including construction of two new pumping stations, replacement of pumps and replacement of water meters.	250 km 100-1000 mm dia pipelaying was constructed through C11, C12 and C15. 23 km 100-800 mm dia pipeline was constructed under efficiency program contracts C13R1 and C13R2. ASAT and ANTSU have carried out 346 km rehabilitation and pipelaying in local contracts . With 53.4 km of 500-1400 mm dia pipe laid by DSI, totally water network length has been reached to 629 km in city after beginning of the Project. 120.741nos of watermeters procured under contract C17. 8 nos of electromagnetic flowmeters, 101 nos of woltman type flowmeters, 13 nos of insertion type flow meters, 1 unit pressure sensor, 86 nos of loggers and sensors for flowmeters and various valves and dismantling pieces procured under C.17A and C.17B.
<b>PART B : Sewerage Works</b>			
1		Construction of a collection network of about 10 km including a small temporary wastewater treatment plant in the old part of Antalya and rehabilitation of the existing network and septic tank at the small scale industrial area.	15.805 m new sewer main and pumping station were constructed in old town and small scaled industrial area under Contract C.29. Sewerage from old town area will be pumped to the main collector, hence, small scale treatment plant will not be built.
2		Construction of new collectors and collection networks of about 380 km to serve about 1,660 ha in the western part of Antalya.	Under contracts 25 & 28; 233 km of sewers together with 2 pumping stations were completed. Under contracts 21 & 22; 223 km sewer network construction is completed. With 15.8 km sewer main constructed in C.29, 12.2 km sewer main constructed in C.200-1 and 5.4 km sea outfall constructed in C.27, totally about 489 km network has been completed. About 8.000 house connections for the above mentioned 233 km of completed sewerage network have been completed through 3 contracts namely C20A, C20B and C20C.
3		Construction of a preliminary treatment plant with a capacity of about 90,000 m3/day at the west end of Antalya, including a sea outfall.	A primary treatment plant with a capacity of 160,000 m3/day under C26 at the west end of Antalya and a sea outfall of 5,400 m under C27 completed and commissioned in Feb 99 and Dec 98, respectively. A biological treatment plant with a capacity of 250,000 EP was completed in December 2001 by ASAT 100% financing. Also second part for further 250.000 EP was tendered in 2003 by ASAT.
<b>PART C : Stormwater Drainage Works</b>			
1		Construction of missing sections on the network, such as culverts, curbs, and channels, and removal of debris from existing rivers, channels and ditches.	Construction of stormwater works has to be implemented by AMM and DM in accordance with the master plan study which was contracted and completed by ASAT/ALDAS in Feb,2000. Since that, AMM and DM have investments on constructing stormwater drainage system.

<b>PART D : Technical Assistance</b>			
1		Project Implementation	
	(a)	Detailed design and construction supervision for the water supply, sewerage and stormwater drainage works.	Detailed design and construction supervision of the completed 8 civil work contracts (C11, C12, C15, C,26, C27, C29, C25, C28) were carried out under Contract C61. Stormwater master plan study carried out and completed under Contract 30. The detailed design and construction supervision of the ongoing 5 civil work contracts ( C21, 22,13R1, 13R2 and 18) were carried out under contract C62.
	(b)	Hydrogeological survey development of groundwater facilities.	Hydrogeological studies were conducted under contract C19. Studies for Duralliler and Pinarlar well fields were completed.
	(c)	Site survey and investigations for mapping of the water supply systems.	Under Contract 01 the digitised maps for existing water network of 1164 km and part of the house connections were completed.
	(d)	Preparation of a comprehensive stormwater master plan.	A stormwater master plan study contract was signed on Nov 30, 1998 and completed in Feb, 2000.
2		Institutional Development	
	(a)	Strengthening the PMU to assist the Borrower, the Antalya Metropolitan Municipality, the District Municipalities and the Sirket in initiating, coordinating and supervising project activities.	PMU unit was established and later on transferred to ALDAS (Sirket) which was founded on 13th Dec, 1995 with adequate technical and financial staff for handling and coordinating the investments of ASAT and management of the Private Operator Contract.
	(b)	Preparation of bidding documents, bid evaluation and contract negotiations for the private operation of water supply, sewerage and stormwater systems.	Preparation of bidding documents, bid evaluation and contract negotiations for the recruitment of private operator for water supply and sewerage services was completed by the assistance of Severn Trent Water International by Dec 1996.
	(c)	Assistance to the Sirket through a twinning arrangement or contract with a water supply and sewerage operator for the management of services, planning and administration of contracts and the implementation of a training program.	A contract with Severn Trent Water International for assisting ASAT and ALDAS signed on Feb 24, 1997 and completed on Feb 29, 2000.
		<i>The Project is expected to be completed by December 31, 2002</i>	The total project activities are scheduled to be completed on June 30, 2003.

**Additional Annex 9. Project Cost By Procurement Arrangements - Appraisal Estimate (000 US\$)**

Components	Procurement Method				Total Cost	
	ICB	NCB	Other	NBF		
<b>I. CIVIL WORKS</b>						
<b>A. WATER SUPPLY</b>						
Component Cost	96,047 (52,345)	0 (0)	3,451 (0)	0 (0)	99,498 (52,345)	Total Cost WB Financing
<b>B. SEWERAGE</b>						
Component Cost	30,019 (16,361)	0 (0)	73,230 (0)	0 (0)	103,249 (16,361)	Total Cost WB Financing
<b>CIVIL WORKS TOTAL</b>	126,066 (68,706)	0 (0)	76,681 (0)	0 (0)	202,747 (68,706)	Total Cost WB Financing
<b>II. EQUIPMENT</b>						
<b>A. WATER SUPPLY</b>						
Component Cost	8,669 (4,810)	0 (0)	0 (0)	0 (0)	8,669 (4,810)	Total Cost WB Financing
<b>B. SEWERAGE</b>						
Component Cost	1,679 (932)	0 (0)	0 (0)	0 (0)	1,679 (932)	Total Cost WB Financing
<b>EQUIPMENT TOTAL</b>	10,348 (5,742)	0 (0)	0 (0)	0 (0)	10,348 (5,742)	Total Cost WB Financing
<b>III. CONSULTANCY SERVICES AND ENGINEERING</b>						
<b>A. PROJECT IMPLEMENTATION</b>						
Component Cost	0 (0)	0 (0)	24,101 (19,394)	0 (0)	24,101 (19,394)	Total Cost WB Financing
<b>B. INSTITUTIONAL STRENGTHENING AND TECHNICAL ASSISTANCE</b>						
Component Cost	0 (0)	0 (0)	6,002 (6,002)	0 (0)	6,002 (6,002)	Total Cost WB Financing
<b>CONSULTANCY SERVICES AND ENGINEERING TOTAL</b>	0 (0)	0 (0)	30,103 (25,396)	0 (0)	30,103 (25,396)	Total Cost WB Financing
<b>IV. LAND ACQUISITION</b>						
<b>LAND ACQUISITION TOTAL</b>	0 (0)	0 (0)	1,422 (0)	0 (0)	1,422 (0)	Total Cost WB Financing
<b>V. BIOLOGICAL TREATMENT PLANT</b>						
<b>BIOLOGICAL TREATMENT TOTAL</b>	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	Total Cost WB Financing
<b>PROJECT COSTS</b>	136,414 (74,448)	0 (0)	108,206 (25,396)	0 (0)	244,620 (99,844)	Total Cost WB Financing

**Additional Annex 10. Updated Implementation and Financing Program by Financier  
(000 US\$)**

<b>Contract No</b>	<b>DESCRIPTION</b>	<b>ASAT Financing</b>	<b>WB Financing</b>	<b>EIB Financing</b>	<b>Iller Bank &amp; DSI Financing</b>
	<b>I.CIVIL WORKS - TOTAL</b>	<b>49,879</b>	<b>60,568</b>	<b>40,097</b>	<b>-</b>
	<b>A.WATER SUPPLY - TOTAL</b>	<b>18,065</b>	<b>18,055</b>	<b>-</b>	<b>-</b>
	<b>B.SEWER NETWORKS - TOTAL</b>	<b>30,759</b>	<b>42,313</b>	<b>20,029</b>	<b>-</b>
	<b>C.SEWAGE TREATMENT AND OUTFALL - TOTAL</b>	<b>1,055</b>	<b>2,170</b>	<b>20,068</b>	<b>-</b>
	<b>II.GOODS - TOTAL</b>	<b>1,459</b>	<b>2,042</b>	<b>-</b>	<b>-</b>
	<b>III.CONSULTANCY SERVICES - TOTAL</b>	<b>3,913</b>	<b>10,158</b>	<b>-</b>	<b>-</b>
	<b>A.PROJECT IMPLEMENTATION - TOTAL</b>	<b>3,864</b>	<b>8,200</b>	<b>-</b>	<b>-</b>
	<b>B.INSTITUTIONAL STRENGTHENING - TOTAL</b>	<b>49</b>	<b>1,958</b>	<b>-</b>	<b>-</b>
	<b>TOTAL FOR I+II+III</b>	<b>55,251</b>	<b>72,767</b>	<b>40,097</b>	<b>-</b>
	<b>IV. LAND ACQUISITION FINANCED BY ASAT</b>	<b>744</b>	<b>0</b>	<b>-</b>	<b>-</b>
	<b>V. ILLER BANK PROJECT</b>	<b>0</b>	<b>0</b>	<b>-</b>	<b>11,504</b>
	<b>VI. DSI PROJECT</b>	<b>0</b>	<b>0</b>	<b>-</b>	<b>17,216</b>
	<b>VII. BIOLOGICAL TREATMENT PLANT</b>	<b>7,895</b>	<b>0</b>	<b>-</b>	<b>-</b>
	<b>GRAND TOTAL for I+II+III+IV+V+VI+VII</b>	<b>63,890</b>	<b>72,567</b>	<b>40,097</b>	<b>28,720</b>

## Additional Annex 11. Project Cost by Component and Source of Funds (US\$)

PROJECT COMPONENTS	World Bank Amount		EIB Amount		ASAT Amount		DSI, IB Amount		Total Amount	
	SAR (contingencies incl.)	Actual								
<b>I. CIVIL WORKS</b>										
<b>A. WATER SUPPLY</b>										
Component Cost	52,345,000	18,054,860		0	43,702,000	18,064,986	3,451,000	17,216,000	99,498,000	53,335,846
<b>B. SEWERAGE</b>										
Component Cost	16,361,000	42,312,986	41,760,000	40,097,300	13,658,000	31,814,098	31,470,000	11,504,000	103,249,000	125,728,384
<b>CIVIL WORKS TOTAL</b>	<b>68,706,000</b>	<b>60,367,846</b>	<b>41,760,000</b>	<b>40,097,300</b>	<b>57,360,000</b>	<b>49,879,084</b>	<b>34,921,000</b>	<b>28,720,000</b>	<b>202,747,000</b>	<b>179,064,230</b>
<b>II. EQUIPMENT</b>										
<b>A. WATER SUPPLY</b>										
Component Cost	4,810,000	1,854,790	0	0	3,859,000	1,383,556	0	0	8,669,000	3,238,346
<b>B. SEWERAGE</b>										
Component Cost	932,000	187,169	0	0	747,000	76,086	0	0	1,679,000	263,255
<b>EQUIPMENT TOTAL</b>	<b>5,742,000</b>	<b>2,041,959</b>	<b>0</b>	<b>0</b>	<b>4,606,000</b>	<b>1,459,642</b>	<b>0</b>	<b>0</b>	<b>10,348,000</b>	<b>3,501,601</b>
<b>III. CONSULTANCY SERVICES AND ENGINEERING</b>										
<b>A. PROJECT IMPLEMENTATION</b>										
Component Cost	19,395,000	7,799,571	4,706,000	0	0	721,194	0	0	24,101,000	8,520,765
<b>B. INSTITUTIONAL STRENGTHENING AND TECH. ASSIST.</b>										
Component Cost	6,002,000	2,358,083	0	0	0	3,191,353	0	0	6,002,000	5,549,436
<b>CONSULTANCY SERVICES AND ENGINEERING TOTAL</b>	<b>25,397,000</b>	<b>10,157,654</b>	<b>4,706,000</b>	<b>0</b>	<b>0</b>	<b>3,912,547</b>	<b>0</b>	<b>0</b>	<b>30,103,000</b>	<b>14,070,201</b>
<b>IV. LAND ACQUISITION</b>										
Component Cost	0	0	0	0	1,422,000	744,224	0	0	1,422,000	744,224
<b>LAND ACQUISITION TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,422,000</b>	<b>744,224</b>	<b>0</b>	<b>0</b>	<b>1,422,000</b>	<b>744,224</b>
<b>V. BIOLOGICAL TREATMENT PLANT</b>										
<b>BIOLOGICAL TREATMENT PLANT TOTAL</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>7,894,551</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>7,894,551</b>
<b>GRAND TOTAL</b>	<b>99,845,000</b>	<b>72,567,459</b>	<b>46,466,000</b>	<b>40,097,300</b>	<b>61,966,000</b>	<b>63,890,048</b>	<b>34,921,000</b>	<b>28,720,000</b>	<b>244,620,000</b>	<b>205,274,807</b>

## Additional Annex 12. Forecast and Actual Disbursements

Calendar Year and Semester Ending	Forecast Disbursements in Staff Appraisal Report		Actual Disbursements		Disbursement Lag in Percent of Total Bank Loan
	US\$ millions	Cumulative %	US\$ millions	Cumulative %	
June 30, 1995	0.0	0	0.0	0	0
Dec 31, 1995	1.0	1	0.0	0	1
June 30, 1996	9.0	10	0.0	0	10
Dec 31, 1996	2.0	12	2.2	2	10
June 30, 1997	8.0	20	1.4	4	16
Dec 31, 1997	2.5	22	4.6	8	14
June 30, 1998	9.0	32	5.7	14	18
Dec 31, 1998	4.4	36	5.9	20	16
June 30, 1999	8.0	44	4.7	24	20
Dec 31, 1999	8.3	52	4.0	28	24
June 30, 2000	10.0	62	3.3	32	30
Dec 31, 2000	8.1	70	3.8	36	34
June 30, 2001	8.0	78	7.0	43	35
Dec 31, 2001	7.7	86	7.4	50	36
June 30, 2002	5.3	91	9.1	59	32
Dec 31, 2002	6.1	97	13.5	73	26
June 30, 2003	2.6	100	0	73	27

Note: On the total, US\$ 27.5 million is cancelled out of the total loan of US\$100.0 million. Due to cost savings, and ASAT's request US\$ 14.9 million, and US\$ 9.0 million out of the loan were cancelled as of February 23, 2001 and March 11, 2003. Due to non-compliance with project conditions the Bank cancelled US\$ 3.6 million out of the loan as of April 1, 2003.

