

## FINANCIAL ANALYSIS

### I. INTRODUCTION

1. The financial analysis was undertaken in accordance with relevant Asian Development Bank (ADB) guidelines.<sup>1</sup> The project is proposed to assist 13 *toza hududs* (state unitary enterprises) through the State Committee of the Republic of Uzbekistan for Ecology and Environmental Protection (SCEEP) and the Republican Association of Specialized Enterprises for Sanitary Cleaning to improve the solid-waste management systems and to build capacity of SCEEP, the association, and *toza hududs*. As per Presidential Decree No. PP-2916 dated 21 April 2017, each *toza hudud* manages the solid-waste system and collects fees for its services in its respective region. The solid-waste collection fee will be set to full cost recovery over the next 10 years.<sup>2</sup> The Republican Association of Specialized Enterprises for Sanitary Cleaning was established in October 2018 to support *toza hududs* in organizational and technical measures for operation and maintenance (O&M), monitoring and analysis of *toza hudud* collection services, and introducing technology for solid-waste management. Both *toza hududs* and the association are under SCEEP and are 100% government owned.

2. The project will be implemented from 2019 to 2024. Once the project is completed, SCEEP will hand over the assets to the 13 *toza hududs* for their use and O&M. SCEEP also requires *toza hududs* to repay 20% of the ADB loan to SCEEP.

### II. METHODOLOGY AND KEY ASSUMPTIONS

3. The financial analysis was conducted for 13 *toza hududs* to assess whether *toza hududs* generate enough revenue to cover operating expenses.

4. The financial model was developed using cost and financial parameters derived from the project design and the 1-year and 6-month financial statements of each of the *toza hududs*. As the *toza hududs* were set up recently (2017), one complete year of financial statements for 2018 and 6 months of statements for 2019 were considered for historical performance analysis. For the financial sustainability assessment, the past income and expenditure patterns, financial statements, and the project cost and design parameters were used to build a model covering revenue forecasts, the project implementation period, and the 20 years of operation. The underlying assumptions used in both models are as follows:

- (i) The models are presented in sum.
- (ii) In addition to the population already covered under the existing solid-waste collection system in each *toza hudud*, the beneficiary population under the project is estimated to be 30% of the total population of each *toza hudud* covered.
- (iii) Population growth in each *toza hudud* has been assumed to be 1.5% per annum until 2028 as forecast in Presidential Decree No. 4291 dated 17 April 2019 and 0.5% thereafter. Waste collection from legal entities was considered as per the technical estimates to be 10% of total projected waste produced in each *toza hudud*.
- (iv) The depreciation rate was considered to be 10% per annum.
- (v) The replacement costs of fixed assets were considered to be at the end of the 10th year for analysis.
- (vi) Collection efficiency has been considered to be 85% in all *toza hududs* based on the current trends.

---

<sup>1</sup> ADB. 2005. [Financial Management and Analysis of Projects](#). Manila.

<sup>2</sup> Republic of Uzbekistan. 2019. [Resolution No. PP-4291 About approval of Strategy according to the treatment of municipal solid waste of the Republic of Uzbekistan for 2019–2028](#). Tashkent.

- (vii) The profit margin is assumed to be 5%, which is below 10% as allowed under the solid-waste policy.

### III. AFFORDABILITY ANALYSIS

5. Tariff proposals prepared by each *toza hudud* are sent to the regional offices of SCEEP for approval. These regional offices are based in each *oblast* (district) and forward the approved tariff to the head of the municipality for final approval and enforcement. Once approved, the tariff applies to all people and enterprises falling within the jurisdiction of the *toza hudud*. Yearly tariff increases for households in the past have ranged from around 14% (in Djizzak) to 50% (in Fergana), with the average increase across all 13 *toza hududs* being about 27%. For legal entities, the yearly average tariff increases across all *toza hududs* has been about 23%.

6. A willingness to pay survey conducted in mid-2019 under the transaction technical assistance revealed that the targeted households were willing to pay up to the current tariff or higher. According to the survey, the willingness to pay ranged from SUM1,863 per person per month to SUM3,022 per person per month. The projected tariff increase in the analysis is operating cost recovery, which is considered reasonable given that the impact of tariffs in the project's first operational year of 2024 is less than 1% of monthly household income. For legal entities, the same rate of tariff increase has been assumed. The increased tariff rates projected are consistent with the principles of operating cost recovery, which are in accordance with the latest economic and fiscal reforms being pursued by the government.

7. An affordability analysis was also conducted on the projected tariffs (Table 1). Per capita income for 2018 in each *toza hudud* has been sourced from the State Statistics Committee of Uzbekistan. This has been adjusted with a gross domestic product growth rate of 5.8% to arrive at the per capita income in 2024. The impact of projected tariffs of 2024 on the monthly household income is less than 1% in all *toza hududs* and is considered affordable.

**Table 1. Affordability Analysis**  
(SUM)

Name of <i>Toza Hudud</i>	Monthly per Capita Income 2018	Monthly Household Income 2018	Monthly Household Income 2024	Monthly Tariff per Household 2024	Tariff as % of Household Income 2024 (%)
Andijan	698,478	3,073,302	4,074,117	11,850	0.29
Bukhara	904,687	3,980,621	5,276,904	16,367	0.31
Djizzak	659,766	2,902,972	3,848,320	16,221	0.42
Kashkadarya	648,817	2,854,796	3,784,456	14,092	0.37
Karakalpakstan Republic	572,443	2,518,750	3,338,977	13,200	0.40
Navoiy	632,232	2,781,820	3,687,715	12,532	0.34
Namangan	755,898	3,325,952	4,409,043	20,210	0.45
Samarkhand	564,107	2,482,070	3,290,353	19,878	0.60
Syrdarya	604,708	2,660,716	3,527,174	15,428	0.44
Tashkent	526,928	2,318,484	3,073,495	14,774	0.48
Fergana	764,663	3,364,519	4,460,169	16,726	0.38
Khorezm	1,141,421	5,022,252	6,657,740	16,000	0.24
Surkhandarya	660,168	2,904,739	3,850,662	17,240	0.45

*Toza hudud* = state unitary enterprise.

Note: Household size considered at 4.4 (Source: Association of *toza hududs*).

Source: State Statistics Committee of Uzbekistan and technical assistance consultant estimates.

### IV. SOLID-WASTE TARIFF

8. Current tariffs for solid-waste services are determined by region and per person per month (as shown in below table 2).

**Table 2. Waste Collection Tariffs in Each *Toza Hudud***

Name of <i>Toza Hudud</i>	Actual Tariff (per month)						Liquid Waste (SUM per m <sup>3</sup> or ton)	New Tariff Notified Date Effective From
	Household (SUM per person)			Legal Entity (SUM per ton)				
	New	Old	% +	New	Old	% +		
Andijan	2,500	2,000	25	36,600	32,040	13	165,600	5 April 2019
Bukhara	2,000	1,700	18	45,000	36,000	25	54,000	13 November 2018
Djizzak	2,500	2,200	14	35,000	28,000	25	30,000	2 April 2019
Kashkadarya	2,500	2,000	25	40,000	33,000	21	48,000	20 November 2018
Karakalpakstan Republic	2,100	1,800	17	48,000	40,800	18	50,209	7 January 2019
Navoi	3,200	2,600	23	46,000	46,000	0	46,000	26 July 2019
Namangan	2,500	2,000	25	30,000	30,000	0	50,000	24 May 2019
Samarkhand	2,500	2,000	25	39,798	30,950	25	50,428	25 January 2019
Syrdarya	2,800	2,000	40	45,000	30,000	50	40,000	27 February 2019
Tashkent	2,750	2,500	10	41,100	32,880	25	54,167	From October 2019
Fergana	3,000	2,000	50	40,000	25,000	60	40,601	17 August 2019
Khorezm	2,300	1,700	35	32,000	25,000	28	45,000	16 March 2019
Surkhandarya	2,500	2,000	25	45,000	39,900	13	45,000	25 January 2019

m<sup>3</sup> = cubic meter, *toza hudud* = state unitary enterprise.

Source: Republican Association of Specialized Enterprises on Sanitary Cleaning.

## V. FINANCIAL SUSTAINABILITY ANALYSIS

### A. Billing and Collection System

9. All households and enterprises pay monthly solid-waste charges as per the tariffs notified by each *toza hudud*. In 2018, the charges were billed per household agreement and were being collected by each *toza hudud* directly until December 2018. Collection efficiency was low as each *toza hudud* had only been set up in late 2017.

10. Starting in January 2019, collection was centralized and collected by the Prosecutors Office. The billing and collection center bills individual households based on the number of people registered in that household. This is different to the 2018 billing methodology. All amounts collected are deposited in “transit bank accounts” at SCEEP’s regional offices. SCEEP then transfers 90% of the amount to *toza hududs* through municipalities, 5% to the Republican Association of Specialized Enterprises for Sanitary Cleaning, and 5% to SCEEP’s regional finance offices (under municipalities). Collection efficiency has improved significantly since the billing and collection center was established.

### B. Historical Performance of the 13 *Toza Hududs*

11. All the 13 *toza hududs* were set up in 2017. Their financial statements are available for the full year of 2018 and 6 months of 2019. More than 95% of income is from solid-waste collection fees. The remaining income comes from charges for removing liquid waste. Direct expenses comprised fuel expenses, salaries, depreciation, and other direct expenses. Administrative expenses included office expenses, administrative staff salaries, and office car fuel expenses. Other operating expenses comprised communication, internet, office supplies, and other current expenses.

12. Analysis of 2018 audited financial statements reveal that 12 out of the 13 *toza hududs* have been able to meet their O&M expenses from their revenues with an operating ratio of less than 1. Only Karkalpakstan *toza hudud* did not meet its O&M expenses in 2018. However, it increased its tariff in January 2019 by 17% and its financial performance improved in 2019.

13. Individual *toza hudud* annual financial statements are prepared under the National Accounting Standards based on accrual accounting. These are audited by independent auditors.

14. Audited financial statements are available for only one full year of operations, i.e., fiscal year 2018. In addition, financial statements for the first two quarters of 2019 have also been collected to assess the impact of the revised tariffs on the performance of *toza hududs*.

15. Since billing methodology changed in 2019 and the tariff increased in quarters 1 and 2 of 2019, the revenue increased disproportionately in the first 6 months of 2019 compared to 2018 (as shown in below table 3).

**Table 3. Summarized Financial Performance of *Toza Hududs*, FY2018**  
(SUM million)

Name of <i>Toza Hudud</i>	Income	Expenses			Total	Net Surplus/ (Deficit)
		Direct Expenses	Admin Expenses	Other Operating Expenses		
Andijan	11,864	8,776	475	248	9,488	2,376
Bukhara	8,249	5,638	2,503	91	8,232	17
Djizzak	6,869	6,185	403	242	6,831	38
Kashkadarya	7,835	6,872	292	833	7,996	89
Karakalpakstan Republic	3,889	3,699	859	2,598	7,156	-3,266
Navoi	8,067	6,764	744	104	7,611	456
Namangan	6,299	4,920	1,345	29	6,294	5
Samarkhand	7,835	7,074	541	220	7,835	0
Syrdarya	2,955	2,932	271	13	3,216	-261
Tashkent	18,283	11,288	2,185	4,523	17,996	287
Fergana	6,571	5,815	460	273	6,549	22
Khorezm	7,315	6,842	493	0.0	7,335	-20
Surkhandarya	16,312	10,887	1,860	3,423	16,170	142
<b>Total</b>	<b>112,593</b>	<b>87,682</b>	<b>12,431</b>	<b>12,597</b>	<b>112,710</b>	<b>-117</b>

( ) = negative, FY = fiscal year, *toza hudud* = state unitary enterprise.

Source: Republican Association of Specialized Enterprises on Sanitary Cleaning and audited financial statements of *toza hududs* for FY2018.

**Table 4. Summarized Financial Performance of *Toza Hududs* for  
6 Months of 2019 (to 30 June)**  
(SUM million)

Name of <i>Toza Hudud</i>	Income	Expenses			Total	Net Surplus/ (Deficit)	Collection Efficiency at 30 June (%)
		Direct Expenses	Admin Expenses	Other Operating Expenses			
Andijan	13,460	9,342	470	228	10,040	3,420	36.4
Bukhara	12,932	8,676	2,974	1,164	12,814	118	85.8
Djizzak	9,076	7,462	807	269	8,538	539	77.8
Kashkadarya	10,722	7,892	301	2,303	10,496	226	67.8
Karakalpakstan Republic	11,850	6,313	2,188	0	8,501	3,349	90.0
Navoi	9,270	8,033	597	123	8,752	517	75.2
Namangan	17,553	10,236	7,112	90	17,438	115	46.9
Samarkhand	21,635	11,318	514	368	12,200	9,434	65.5
Syrdarya	5,809	3,791	705	63	4,559	1,250	69.4
Tashkent	29,604	20,556	3,643	4,375	28,573	1,030	56.3
Fergana	5,497	4,390	773	294	5,457	41	52.3
Khorezm	14,352	12,551	1,533	0	14,084	267	66.1
Surkhandarya	14,704	10,512	1,993	1,751	14,257	447	73.4
<b>Total</b>	<b>176,464</b>	<b>121,073</b>	<b>23,610</b>	<b>11,026</b>	<b>155,710</b>	<b>20,755</b>	

*Toza hudud* = state unitary enterprise.

Source: Republican Association of Specialized Enterprises on Sanitary Cleaning and financial statements of *toza hududs* for 6 months to 30 June 2019.

16. Table 4 shows that the income of the *toza hududs* in the first half of 2019 was more than for the full year 2018 (Table 3). This is because of (i) the impact of the revised tariffs in *toza hududs*, with most of the revisions taking place during the last quarter of 2018 and the first quarter of 2019; and (ii) improved coverage under the billing system because of changes in the billing methodology. All *toza hududs* showed surpluses during the first half of 2019.

17. Collection efficiency was low in 2018, however it has improved since January 2019. Collection efficiency as of 30 June 2019 averages 65% (Table 4).

### C. Results of Financial Sustainability Analysis

18. The results of the financial sustainability analysis indicate that all 13 *toza hududs* will be able to meet their O&M expenses with a reasonable increase in tariff over the asset life of 10 years.

19. The analysis assessed the tariff impact in the 13 *toza hududs* to meet O&M costs and repay 20% of the loan over 10 years as required by SCEEP. There is average annual compound tariff growth of 6.9% over 5 years (2019–2024). *Toza hududs* start to repay the loan in 2024, after which the tariff is projected to increase annually by an average of 7.9%, which is about the same as the projected inflation rate. The projected tariff increases from 2024 to 2034 are considered affordable as they are about 0.4% of monthly household income.

20. The analysis also assessed the tariff impact in the 13 *toza hududs* to meet full cost recovery which includes operating costs, depreciation, and loan interest. The average annual compound tariff increase is 8.8% over 5 years (2019–2024), after which the tariff is projected to increase at an annual average of 7.7%, which is the same as the projected inflation rate. The projected tariff increases from 2024 to 2034 are also considered affordable as they are about 0.5% less than of monthly household income (as shown in below table 5).

21. If some *toza hududs* cannot meet the target tariff increase, SCEEP will provide financial support for the shortfall as SCEEP collects 5% of the 13 *toza hudud* revenues.

**Table 5. Tariff Projection for 13 Toza Hududs**  
(SUM per person per month)

Name of <i>Toza Hudud</i>	Current Tariff 2019	Projected Tariff for O&M Plus 20% Debt Repayment	
		Recovery, 2024	Projected Tariff for Full Cost Recovery, 2024
Andijan	2,500	2,693	2,983
Bukhara	2,000	3,720	4,090
Djizzak	2,500	3,687	4,300
Samarkhand	2,500	3,203	3,438
Fergana	3,000	3,000	3,000
Kashkardarya	2,500	2,848	3,115
Tashkent	2,750	4,488	4,824
Namangan	2,500	4,502	4,727
Surkhandarya	2,500	3,506	3,770
Karalkapakstan	2,100	3,358	3,772
Khorezm	2,300	3,801	4,090
Navoi	3,200	3,636	4,097
Syrdarya	2,800	3,918	4,384

O&M = operation and maintenance, *toza hudud* = state unitary enterprise.

Source: Technical assistance consultants' analysis.