

MUNICIPALITY OF JENIN



**Annual Report on Water Supply Service
in Jenin Municipality
for the Year 2019**

March 2020

Table of Contents

Abbreviation -----	ii
Chapter 1 Introduction -----	1
Chapter 2 Overview of the Service Provision -----	1
2.1 Mission Statement -----	1
2.2 Key Offices and Facilities -----	1
2.3 Monthly Water Tariff and Other Fees -----	2
2.4 Distribution Scheduling -----	3
Chapter 3 Sequence of Key Activities in the Business Plan-----	3
Chapter 4 Managerial Performance at a Glance-----	4
Chapter 5 Implementation Status of Key Activities in 2019 -----	5
Chapter 6 Financial Highlight-----	8

Abbreviation

AFD	Agence Française de Développement (French Development Agency)
BOQ	Bill of Quantities
BS	Balancing Tank
BSC	Balanced Score Card
Business Plan	Water Service Management Plan 2018 - 2027 for Jenin Municipality
CDS	Customer Database Survey
CNX	Connection
CSS	Customer Service Section, Water and Wastewater Department of Jenin Municipality
CU	Collection Unit of Jenin Municipality
DSIP	District Service Improvement Plan
EOI	Expression of Interest
FD	Financial Department of Jenin Municipality
GIS	Geographic Information System
HH	Household
JD	Jordanian Dinar
JM	Jenin Municipality
JET	JICA Expert Team for the Project for Strengthening the Capacity of Water Service Management in Jenin Municipality
KfW	Kreditanstalt für Wiederaufbau (German state-owned development bank)
KPI	Key Performance Indicator
MBS	Mobile Billing System
MoLG	Ministry of Local Government
NIS	New Israel Shekel
NRW	Non-Revenue Water
OJT	On the Job Training
O&M	Operation and Maintenance
PA	Pilot Area set up for the model activities to reduce non-revenue water
PS	Pumping Station
PSC	Public Service Center of Jenin Municipality
PWA	Palestine Water Authority
PPWM	Prepaid Water Meter
TBD	To Be Determined
UPWSP	Union of Palestinian Water Service Providers
WBWD	West Bank Water Department of Palestine Water Authority
WNS	Water Network Updating Survey
WS	Water Section, Water and Wastewater Department of Jenin Municipality
WSRC	Water Sector Regulatory Council
WWD	Water and Wastewater Department of Jenin Municipality

Chapter 1 Introduction

This “Annual Report on Water Supply Service in Jenin Municipality for the Year 2019” is a wrapping up of the activities conducted by the Jenin Municipality (hereinafter “JM”) in accordance with the “Water Service Management Plan 2018 - 2027 for Jenin Municipality” (hereinafter “Business Plan”), the mid/ long-term program developed for the period from 2018 to 2027 and approved by the Municipal Council in April 2019.

Chapter 2 Overview of the Service Provision

2.1 Mission Statement

The mission of JM and the specific actions for its water supply service are categorized into a hierarchy, comprised of the overall goal (mission statement), direct means and outputs as shown in **Figure 2-1**. The mission statement of JM on water supply service is “**Jenin Municipality provides adequate water supply service to citizens with an affordable price**”.

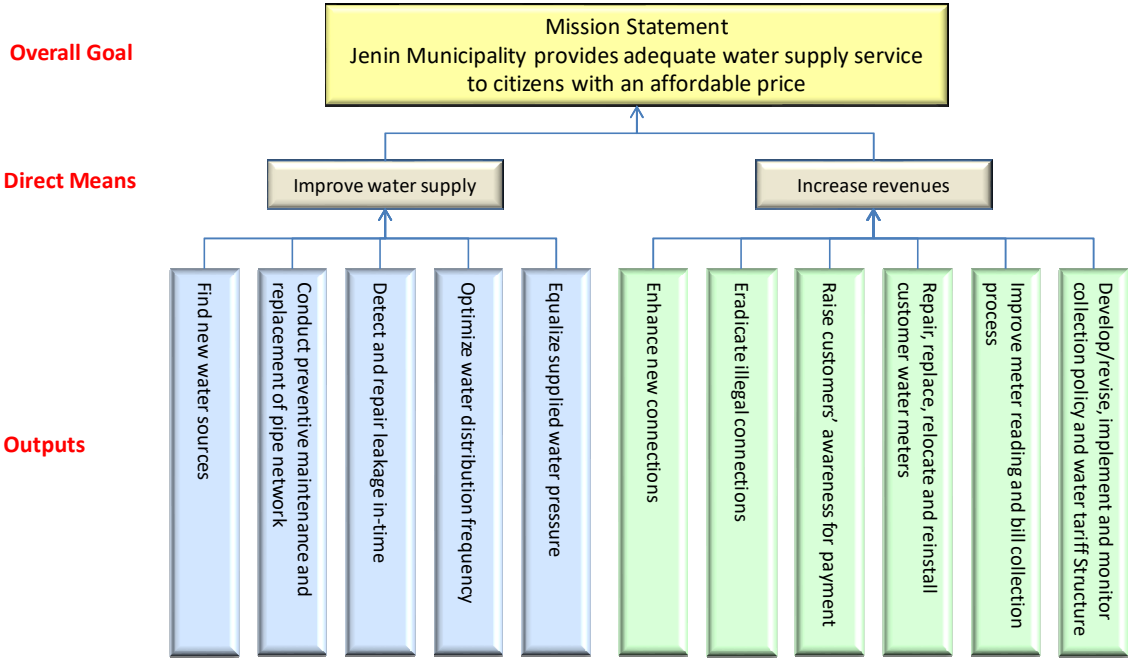


Figure 2-1 Strategy Map of Jenin Municipality for Managing Water Supply Service

2.2 Key Offices and Facilities

The Water and Wastewater Department (hereinafter “WWD”) is responsible for the water supply, customer service, meter reading and bill delivery/ collection in JM. This WWD consists of Studies and Planning Section, Water Section (hereinafter “WS”), Wastewater Section and Customer Service Section (hereinafter “CSS”). From April 2019 the installation of prepaid water meter (hereinafter “PPWM”) has started in model areas, and the vending stations for charging the PPWM card are available in nearby locations.

Table 2-1 Key Offices and Facilities

Building/Facilities	Address	Telephone	Notes
Water and Wastewater Department Building	Al-Nasreh St., Industrial Round About.	04 250 2023	Director of WWD; Studies and Planning Sec.; WS; Wastewater Sec.; CSS
Jenin Municipality Main Building	Nablus St., Near the Civil Defence Office.	04 250 1036	Financial Dept. (hereinafter "FD"); Administration Dept; Engineering Dept; IT Unit; Procurement Sec.; PR Sec.; Monitoring and Internal Auditing Unit; Legal Unit; and Public Service Centre (hereinafter "PSC").
City Centre (Sibat) Collection Office & Vending Station for prepaid water meter	City Centre (Sibat)	04 241 5701	Bill payment & Charging for PPWM
Haifa Street Collection Office & Vending Station for PPWM	Haifa Street, Opposite the Post Office	04 243 0860	Ditto
Vending Station for PPWM (Supermarket Al Jaleel)	Al-Nasreh Street, Kharoubeh Roundabout	059 205 1105	Charging for PPWM
Vending Station for PPWM (Supermarket Al Thahir)	Haifa Street, Al-Zahraa	059 403 2106	Ditto
Vending Station for PPWM (Supermarket Al Sharqieh)	Albayader, Al-Sharqieh	056 944 4046	Ditto
Al Sa'adeh Well	-	-	Owned and managed by JM.
Al Mechanic Well	-	-	Ditto
Balama Well	-	-	Ditto
Boosters (UNRWA, Al-Sharqia, Halima Sa'deh, Sanouri, Sabah al Khair, Al-Jamal and Abu Thaher)	-	-	Ditto
Bulk water supply connections (Swetat, Jalameh and Jammal BS)	-	-	Owned and managed by West Bank Water Department (hereinafter "WBWD") of Palestine Water Authority (hereinafter "PWA").
Private wells (Farahty, Jarrar, Allawneh, Sa'di, Sayeed, Abu Hatab and Abu Samer)	-	-	JM purchases water.

2.3 Monthly Water Tariff and Other Fees

Table 2-2 Current Water Tariff and Other Fees

Category		Tariff	Notes
Water Tariff	Minimum (Fixed) Charge	17.36 NIS/month	Equivalent to the use of minimum quantity of 4 m ³ (Not applicable to PPWM users)
	Volumetric Charge	0-50m ³	4.34 NIS/m ³
		Over 50m ³	6.2 NIS/m ³
	Volumetric Charge (Governmental Institutions)	4.5 NIS/m ³	
	Volumetric Charge (Municipality Institutions)	4.34 NIS/m ³	
Water Network Maintenance		6.2 NIS/month	
New Connection Fee		682 NIS	Connection fee: 498 NIS; Location fee: 31 NIS; Meter fee: 31 NIS; Worker wage fee: 124 NIS
Transfer Fee of Meter Ownership		50 NIS	In case of no insurance paid in the past, additional 50 JD (250NIS)
Transfer Fee of Meter Location		217NIS or 50JD	
Temporary Stop of Meter Fee		62 NIS	
Meter Disconnection Fee		62 NIS	

2.4 Distribution Scheduling

Non-continuous water supply program has been implemented in JM by opening/ closing sluice valves. The supply is intermittent, and the cycle does not cover a whole week i.e. the supply days are variable. As a result, most areas get water once or twice a week, of which duration varies from 1-2 days in summer to longer days in winter when the water demand decreases.

Chapter 3 Sequence of Key Activities in the Business Plan

The sequence of the key activities incorporated in the Business Plan is shown in Figure 3-1. In line with the policy of PWA to establish a pilot regional water utility in north Jenin area, the improvement of water supply service/ management in JM should be accelerated. The year 2022 shall be one of the important milestones for the Jenin water service, when all the preparations such as the customer database survey (hereinafter “CDS”), the water network update survey (hereinafter “WNS”), the updating of hydraulic model, the improvement of bill collection, the revision of water tariff and the change of current accounting method to the modified accrual will have been completed. And to accelerate the improvement, an area-wise improvement plan (District Service Improvement Plan, hereinafter “DSIP”) was developed in 2019 and has been implemented for the District 1 (north-west), the District 2 (east) and the District 3 (city centre and south) through the assistance by PWA in funding necessary infrastructure improvement from 2019.

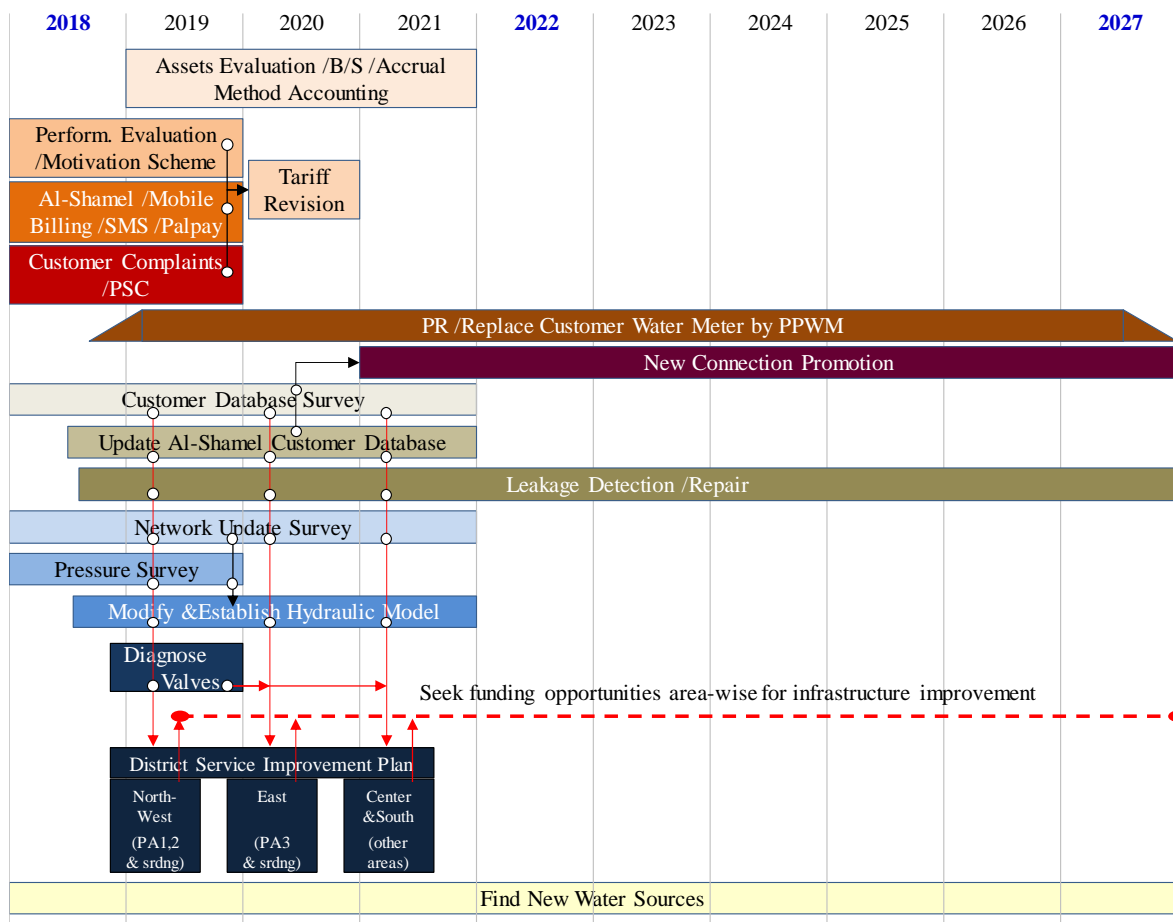


Figure 3-1 Sequence Structure of Key Activities in the Business Plan

Chapter 4 Managerial Performance at a Glance

The key performance indicators (KPIs) and their targeted values are listed as shown in **Table 4-1**. The indices from No.1 to No. 18 are annually reported to the WSRC by all water service providers and it is easy for benchmarking. Considering the special condition of JM with intermittent water supply, No. 19 and No. 20 are added regarding the pressure and continuity of supply. Moreover, since there are no indicators related to “Learning and Growth” from the 4 perspectives of Balanced Score Card (BSC), the 2 indices are added as No. 23 and No. 24 to evaluate the training status of the employees.

Table 4-1 KPIs and Targeted Values

	Index	2016	2017	2018	2019	Target	Notes
1	Average daily per capita water consumption (domestic)	69 l/c/d	61 l/c/d	59 l/c/d	-	-	Assumed served population 56,000 in 2018; No data available in 2019
2	Average daily total per capita water consumption (domestic, industrial, commercial, touristic)	74 l/c/d	67 l/c/d	62 l/c/d	-	-	
3	NRW by volume	49 %	44 %	60 %	55%	2018: 42% 2022: 35% 2027: 30%	1,887,189m ³ in 2018; 1,861,686m ³ in 2019
4	NRW per km of network per year	9,542 m ³	7,043 m ³	12,581 m ³	11,099 m ³	-	Assumed NW length 150km as of end 2018; NW length 167.74km as of end 2019.
5	NRW per cnx per day	410 l/cnx/d	348 l/cnx/d	494 l/cnx/d	474 l/cnx/d	-	No. of cnx. 10,765 as of Dec 2019
6	Personnel costs per m ³ of water sold	2.5 NIS/m ³	2.9 NIS/m ³	2.6 NIS/m ³	2.8 NIS/m ³	-	
7	Water purchase costs per m ³ of water sold	0.7 NIS/m ³	0.4 NIS/m ³	0.7 NIS/m ³	0.7 NIS/m ³	-	Not including the cost from WBWD
8	Energy costs per m ³ of water sold	1.4 NIS/m ³	1.3 NIS/m ³	0.1 NIS/m ³	0.2 NIS/m ³	-	Oils and motor fuels in 2018 & 2019; not including unpaid electricity cost
9	Collection efficiency – water service	54 %	72 %	79 %	52 %	2018: 75% 2022: 100% 2027: 150%	
10	Working ratio (efficiency ratio) for water service	1.1	1.3	1.2	1.3	2022: 1.0 2027: 0.8	O&M and administrative cost / operating revenue from water (excluding payables)
11	Water samples (taken from network) containing free chlorine residual	85 %	83 %	-%	95 % (570 /600)	100 %	No recording of water test in 2018
12	Water samples (taken at source) free from total coliform contamination	100 %	100 %	-%	85% (510 /600)	100 %	
13	Water samples (taken at source) free from fecal coliform contamination	100 %	100 %	-%	85% (510 /600)	100 %	
14	Water samples (taken from network) free from total coliform contamination	100 %	100 %	-%	85% (510 /600)	100 %	
15	Water samples (taken from network) free from fecal coliform contamination	100 %	100 %	-%	85% (510 /600)	100 %	

	Index	2016	2017	2018	2019	Target	Notes
	tion				/600)		
16	Microbiological tests carried out	400 %	335 %	-%	100% (600 /600)	Not less than 100%	
17	Water samples taken at source free from Nitrate contamination	100 %	100 %	-%	2.5% (15 /600)	100 %	
18	Staff productivity index (SPI) per 1000 customers	6.0	6.9	6.6	7.0	2018: 5.6 2022: 5.6 2027: 5.2	Number of working staff / number of active subscribers; 63 employees in 2019.
19	Pressure of drinking water supply	-	-	-	-	TBD	Number of pressure complaints / number of service complaints (%)
20	Continuity of supply	-	-	-	-	TBD in each distribution zone wise	Number of hours when the system is pressurized /24 hours (%)
21	Unit tariff of water supply	5.12 NIS/m ³	- NIS/m ³	4.51 NIS/m ³	-	-	
22	Number of pipeline failures	-	-	-	-	TBD	Number of pipeline failures / 100 km of pipeline
23	External training time for staff	-	-	-	-	4 days/staff	Participate in training programs by UPWSP or others
24	Internal training time for staff	-	-	-	-	4 days/staff	Participate in internal trainings and workshops

Chapter 5 Implementation Status of Key Activities in 2019

The implementation and achievement status of activities planned to be done in 2018 and 2019 as stipulated in the Business Plan is shown in Table 5-1.

Table 5-1 Implementation & Achievement Status of the “Water Service Management Plan 2018-2027” as of End 2019

Activities	Specific Activities to be Conducted		Implementation & Achievement Status		Further Actions to be Taken		
	In 2018	In 2019	As of End 2018	As of End 2019			
Increase Revenue	Develop/ revise, implement and monitor collection policy and schedule of water tariff	Recruit full-time accountants for FD.		Under discussion with Municipal Council.	2 employees were transferred from CU and PSC as accountants (after 2 accountants had been retired/ transferred).	Additional 3 accountants are to be hired to prepare for and operate accrual method of accounting.	
		Analyse current water tariff and develop revision proposal.		Developed a draft in line with the Water Service Management Plan 2018-2027.	Finished in 2018.	Finished	
			Develop and monitor target of bill and debt collection.		Setup a target as averagely 9% increase in 2020 (up to 48%) from the baseline 39% in 2018, as per the ratio of issued billed over the collected bills of current month.		Monitoring to be continued.
			Assess present value of assets related to water.		Municipal Council decided to shift current cash-basis accounting to accrual method of accounting; Started the review of assets valuation.		To be continued for shifting the current cash basis to accrual method of accounting.
Improve meter reading and bill collection process	Draft performance evaluation and motivation/ penalty scheme for readers & collectors.	Implement performance evaluation, motivation/ penalty scheme and workflow improvement for CU.	<ul style="list-style-type: none"> - Developed performance evaluation format based on the developed job description. - Drafted by-laws for performance evaluation and annual reward system. - Developed a motivation allowance scheme for meter readers and collectors which was approved by Municipal Council. 	<ul style="list-style-type: none"> - Performance evaluation and annual reward system is still to be approved by Municipal Council and MoLG. - Motivation allowance was provided to meter readers and collectors for the collection in January, March, June, July and September 2019; the allowance for the collection in December 2019 has not been paid as of 6th March 2020. 	Performance evaluation and annual reward system and related bylaws should be approved by Municipal Council and MoLG.		
					Provision of motivation allowance for meter readers and collectors to be continued.		
	Modify Al-Shamel.		Updated from version 5 to 6 on a new server computer.	<ul style="list-style-type: none"> - Developed and programmed new forms of collection reports as the detailed bill collection statistics with the breakdown of (a) billing zone; (b) collector and method of payment & collection; (c) customer category; (d) current and short/ long term debt; and (e) number of bill and billed & collected amount. - Modified the program in line with the introduction of PPWM software, Palpay and MBS. 	Modification related to the accrual method of accounting, the adaptation to MoLG chart of accounts and the introduction of cost centre function should be implemented.		
	Draft workflow improvement for CU,		Developed and discussed the draft organization reform plan for CU and CSS.	<ul style="list-style-type: none"> - CU was abolished. - Meter readers and collectors were transferred to CSS. 	Reading subzones are to be reallocated to cover unread subzones due to 6 vacancies among 15 readers, by reflecting the expanded coverage by PPWM and the use of MBS.		
	Rehabilitate collection offices.		Finished in 2 offices (existing Sibat office and new Haifa Street office).	Finished in 2018.	Finished.		
		Introduce MBS, SMS reminder, bank remittance and Palpay.		<ul style="list-style-type: none"> - Procured MBS and conducted test operation and training. - Started a model operation of sending SMS reminder to 300 customers. - Concluded a contract with Palpay and prepared its operation. 	Operation to be continued after fixing initial bugs of the systems and operational problems. Bank remittance system should be developed and put into use.		
Repair, replace, relocate and reinstall customer water meter	Conduct meter accuracy test.		Portable test bench machine was procured; Tested 70 customer meters randomly selected in PA1.	Continued using portable test bench machine to fix 0 reading problems and customer complaints about too high readings.	Practice to be continued.		
	Get approval of revised water supply contract.		Prepared a draft new contract for PPWM users.	Drafted new contract was approved by Municipal Council.	To be shown to and signed by PPWM users.		
	Conduct meter experiment.		Conducted using 3 types of meter (ultrasonic, volumetric and mechanical).	Decided the type of PPWM to be introduced as ultrasonic.	Finished.		
	Develop policy of meter replacement.		Municipal Council approved the recommendations by JET on PPWM installation in PA1.	<ul style="list-style-type: none"> - Implemented the meter replacement policy in PA1 based on the JET recommendation. - Developed and implemented meter replacement policy in PA2 and 3. 	Finished (the policy in other areas shall be in accordance with PA2 and 3 or modified if necessary).		
	Procure customer meters.		Prepared for the procurement.	Finished procurement of PPWM bodies, plastic cases, software application, fittings, computers and related devices.	To be continued for other areas outside of PA1, 2 and 3.		
		Recruit/ train technicians for meter maintenance.		3 existing technicians were transferred from WS to CSS as meter technicians.	Finished.		
		Replace customer meters in PA1.		<ul style="list-style-type: none"> - Started meter replacement with PPWM in April 2019. - 631 (81%) of 783 customers in PA1; 56 (9%) of 622 customers in PA2; and 96 (19%) of 510 customers in PA3 finished as of early January 2020 (in total 783 (41%) of 1,915 customers in PA1, 2 & 3 finished). 	PPWM installation in PA1, 2 and 3 should be finished. Installation of procured PPWM for other areas to be started.		

Activities	Specific Activities to be Conducted		Implementation & Achievement Status		Further Actions to be Taken	
	In 2018	In 2019	As of End 2018	As of End 2019		
		Develop technical standards on house connection and water meter installation.		Still to be developed.	Should be developed and put into practical use.	
Raise customers' awareness for payment	Develop program for raising public awareness.		Established new JM website with on-line complaint/ live chat system.	Finished in 2018.	Finished.	
	Raise awareness of meter replacement and bill/ debt payment in PA1.	Continue the activity of 2018 in PA3.	"Soft approach" trial was done through visit to customers in PA1 who have outstanding debts.	- Continued "soft approach" to customers in PA1 who have outstanding debts. - Conducted door to door visit to customers (PPWM pre-installation survey) and held community meetings in PA1, 2 and 3.	Door to door visit to be extended for the new customers that are going to install PPWM.	
		Establish on-line customer complaint system and related organizational set-up.		Operated on-line customer complaint system built in new JM website.	Operation to be continued.	
Eradicate illegal connections	Conduct CDS and update Al-Shamel database in PA1 and 2.	Continue the activity of 2018 in PA3 and other areas for 2000 HHs.	Finished in PA1 and 2.	Finished in PA3.	To be expanded outside of PA1, 2 and 3.	
	Identify and investigate suspected illegal connections.	Continue the activity of 2018.	Done as a trial in Al-Basateen (north) of District 1.	Identified a suspected illegal connection and disconnected house connection pipes branched from 2" distribution line in PA1.	Practice to be continued and expanded.	
Enhance new connections	Establish workflow for manual merger of Al-Shamel and GIS.	On-line integration of Al-Shamel and GIS.	Done in line with CDS in PA1 and 2.	Collected information and views from other municipalities and Arab American University; Concluded that the on-line integration was too early for JM.	Finished.	
Improve Water Supply	Equalize water pressure	Conduct WNS for PA1 and 2.	Conduct WNS in line with CDS.	Finished in PA1 and 2.	Finished in PA3.	To be expanded outside of PA1, 2 and 3.
	Optimize water distribution	Conduct water pressure measurement survey.	Continue the activity of 2018.	Finished in PA1, 2 and 3; Preparation work for District 1 (except PA1 and 2) finished.	Finished in whole city (District 1, 2 & 3).	Finished.
		Establish hydraulic model for PA1 and 2.	Establish hydraulic model in line with WNS.	Finished in PA1 and 2.	Finished in PA3.	To be expanded outside of PA1, 2 and 3.
Conduct OJT on EPANET or WaterCAD.	Continue the activity of 2018.	Preliminary training on EPANET for PA1.	Continued training on EPANET for PA2 and 3.	Finished.		
Detect and repair leakage in-time	Conduct OJT on NRW and leakage detection/ repair in PA1.	Conduct OJT on leakage detection /repair in PA3.	Finished in PA1 and PA2 in place of PA3 to be conducted in 2019.	Finished in 2018.	Fixing ground surface leakage has been conducted as regular routine and shall be the main activity, but the procured equipment is to be utilized as needed.	
	Identify and procure necessary equipment and materials for leakage detection/ repair.		Procured pick-up, backhoe, threading machine, generator, ground microphone, pipe locator, data loggers, flowmeters, gate valves, clamps etc.	Finished in 2018.	Finished.	
		Train welders.		Reemployed a retired welder on contract basis to train young technicians for welding works.	Finished.	
Preventive maintenance and replacement of pipe	Diagnose existing valves.	Continue the activity of 2018.	Finished preparation work.	- Finished in whole city (District 1, 2 & 3). - Developed a BOQ with estimated cost to replace malfunctioning valves.	Finished.	
		Develop DSIP for District 1.		- Discussed with PWA and agreed on the concept of DSIP, the schedule of its development and the way forward for its implementation. - Developed DSIP for the whole city (District 1, 2 & 3): (a) Mapped distribution zones and distribution schedule; (b) Developed and implemented measures to improve water supply.	Finished.	
		Find donors and implement DSIP.		- Updated the progress and shared developed DSIP with PWA. - PWA started the procurement (firstly EOI for consultant) using the fund of AFD to replace the WBWD transmission line from Al-Jalameh to Swetat connection. - PWA started the procurement of 2" and 3" pipes for JM to replace aged distribution pipeline with leakage.	To be expanded, especially in District 3 where water resource has been improved through new usage of 2 private wells, but old pipelines have not been abandoned which run in parallel to the new KfW lines.	
Find new water sources	Conclude contracts with private wells/ Find donors for drilling new municipality wells.	Continue the activity of 2018.	Newly contracted with Al-Sa'di well.	- Newly contracted with Abu Hatab well and Abu Samer well. - Coordinated with Al-Wael company and replaced the well pump of Al-Sa'adeh well to recover its decreased production.		

Note: No corresponding activity; **Unfinished**; Finished but its operation/ practice is to be expanded/ continued

Chapter 6 Financial Highlight

The financial balance of WWD separated from the financial statements of whole JM is shown in **Figure 6-1** from FY 2012 to FY 2019. The total expenditure has not been covered by the total revenue and the coverage ratio remains 51.5% and 60.7% in FY 2019 and averagely in the last 7 years respectively. The deficit has been covered by drawing cash from the insurance reserve paid by customers (e.g. new connection). Besides the water purchase cost from WBWD has not been paid.

Balance in Financial Statements for WWD from 2012 to 2019											(unit: NIS)
Item	2012	2013	2014	2015	2016	2017	2018	2019	Total		
Revenue (excluding receivables)	Current water revenue	3,188,158	2,847,284	2,562,345	2,300,735	2,540,842	2,989,693	2,867,383	2,549,418	21,845,858	53.8%
	Water subscription fee	98,084	107,050	104,005	110,264	90,034	101,661	111,472	108,477	831,047	2.0%
	Sewerage fee	168,892	189,022	132,308	144,755	144,276	188,584	157,619	177,693	1,303,149	3.2%
	Water tanker revenue	106,361	87,021	77,500	118,610	109,505	94,825	94,523	115,035	803,381	2.0%
	Collected debt	1,346,652	1,045,614	1,131,732	4,890,573	1,477,370	2,321,073	1,653,533	1,484,882	15,351,428	37.8%
	Others	28,758	44,574	76,627	43,037	41,783	59,625	57,236	108,652	460,293	1.1%
	Total Revenue (X)	4,936,906	4,320,564	4,084,517	7,607,974	4,403,809	5,755,461	4,941,766	4,544,158	40,595,155	100.0%
Expense	Personal expense	2,955,048	2,974,900	3,460,002	3,118,229	3,328,137	3,416,255	3,315,771	3,640,613	26,208,955	39.2%
	Water purchase fee (private well)	791,043	1,467,838	1,378,078	899,555	1,279,097	472,618	835,306	901,188	8,024,723	12.0%
	Pump maintenance	141,814	139,600	461,530	590,424	624,765	583,865	1,155,191	562,350	4,259,539	6.4%
	Network maintenance	408,195	440,400	413,335	242,390	345,512	477,426	116,396	357,490	2,801,145	4.2%
	Oils and motor fuels	251,206	247,083	218,721	231,315	156,612	133,607	150,135	193,716	1,582,396	2.4%
	Car maintenance & insurance	92,276	185,034	103,862	54,995	142,473	106,099	140,013	150,352	975,105	1.5%
	Others	1,537,386	13,046	25,078	17,855	34,194	29,841	22,240	25,240	1,704,879	2.5%
	Sub total	6,176,967	5,467,901	6,060,606	5,154,763	5,910,790	5,219,711	5,735,052	5,830,950	45,556,742	68.1%
	Water purchase fee (WBWD, unpaid)	2,706,210	2,928,250	925,158	2,884,726	2,894,034	2,990,286	2,990,000	2,990,000	21,308,664	31.9%
	Total Expense (Y)	8,883,177	8,396,151	6,985,764	8,039,489	8,804,824	8,209,997	8,725,052	8,820,950	66,865,406	100.0%
	Deficit (X-Y)	-3,946,272	-4,075,586	-2,901,247	-431,515	-4,401,015	-2,454,536	-3,783,286	-4,276,792	-26,270,251	-
	Total Revenue/Total Expenses (%)	55.6%	51.5%	58.5%	94.6%	50.0%	70.1%	56.6%	51.5%	60.7%	-

Note: Water purchase fees (WBWD, unpaid) in 2018 and 2019 are estimated as the same level as 2017 (hatched yellow).

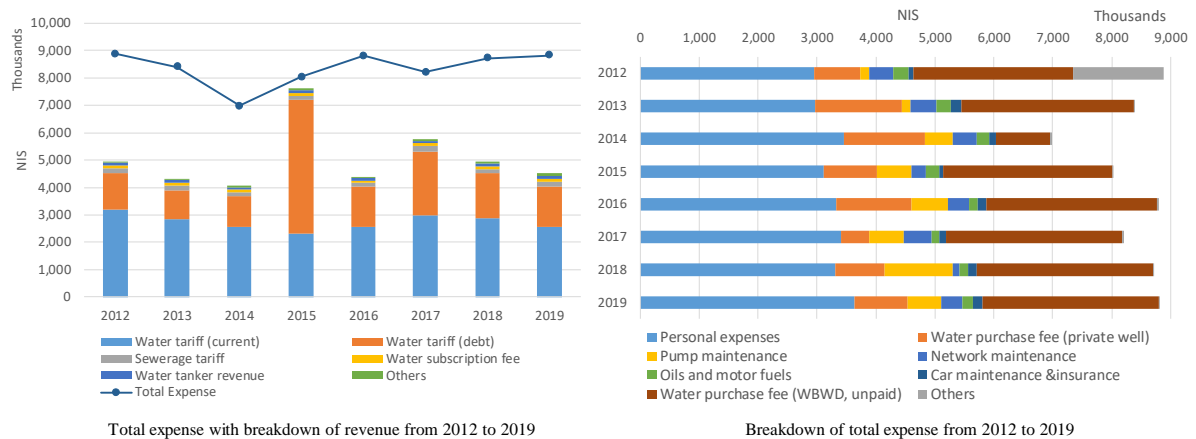


Figure 6-1 Financial Balance from 2012 to 2019