التعاون الألماني
DEUTSCHE ZUSAMMENARBEIT

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Resilience - Oriented Indicators Overview

Yemen Water Sector Performance Indicators

of The Water and Sanitation Local Corporations (LCs) in
Aden, Sana'a, Ibb, Taiz and Hodeidah

3rd Quarter

July – September 2018

IBB-WSLC

SWSLC

Contents

1 Overview

Since the situation in Yemen has been greatly exacerbated by the conflict and its repercussion in 2015. The Water and Sanitation Local Corporations (LCs) are encountering difficulties in maintaining adequate operation and maintenance to provide the residents with a reliable water and sanitation services. Network rehabilitation and extension projects funded by government and/or donor organizations, due to the prolonged conflict, have been suspended or completely terminated. Given the urban expansion associated with rapid population growth, most of the population has left without proper connections to the public network.

The ability of the LCs to provide acceptable services depends on a wide range of factors, such as adequate infrastructure, access to energy and consumables, qualified personnel, efficient financial and performance-oriented management. Likewise. The current situation confronted by the LCs confirmed that fragility and conflict can be extremely disruptive to these interrelated elements, and how the quality of service delivery could be degraded to a point of no return by a "vicious cycle" of insufficient financial and operational resources, aging and depreciation of assets, and in due course, leads to interrupted water supplies, customers' dissatisfaction with the services they receive, and low revenue collection due to their unwillingness to pay for those services, which sooner or later, undermines the resilience and sustainability of the service delivery.

One of the utmost consequences of poor sanitation and low access to clean drinking water has had catastrophic health effects by forcing the vast majority of the urban population to rely on unregulated and alternative water supplies, making them susceptible to water-borne diseases such as diarrhoea and endemic cholera. As a result, the number of suspected cases of cholera has been monitored regularly since the outbreak in 2016 and, according to recent statistics from the Emergency Operation Centre[1] (WHO), approximately 106,973 of suspected cholera cases have been reported between July and September 2018.

The outbreak of cholera, on the other hand, has placed a burden on the social responsibility and mandate of the LCs. To confront and mitigate further pervasiveness and severity of Cholera, the LCs had appealed the international humanitarian agencies to act promptly and support them with fuel and/or alternative sources of energy to secure the continuity of safe drinking water, even at the minimum level, and hygienic disposal of wastewater in the affected areas.

Furthermore, the WASH Cluster and the other Humanitarian Societies have mobilized the possible resources to support the LCs with urgent prevention measures, including the disinfection of contaminated water sources and networks, and the distribution of chlorine tablets alongside large-scale awareness campaigns.

Last but not least, despite the harsh conditions and challenges, the determination and dedication of the LCs' staff were indispensable in maintaining the continuity of the service provision in view of the available possibilities. Furthermore, effective emergency measures initiated by the relief and donor organizations contributed to strengthening the capacity of the LCs in critical operational aspects.

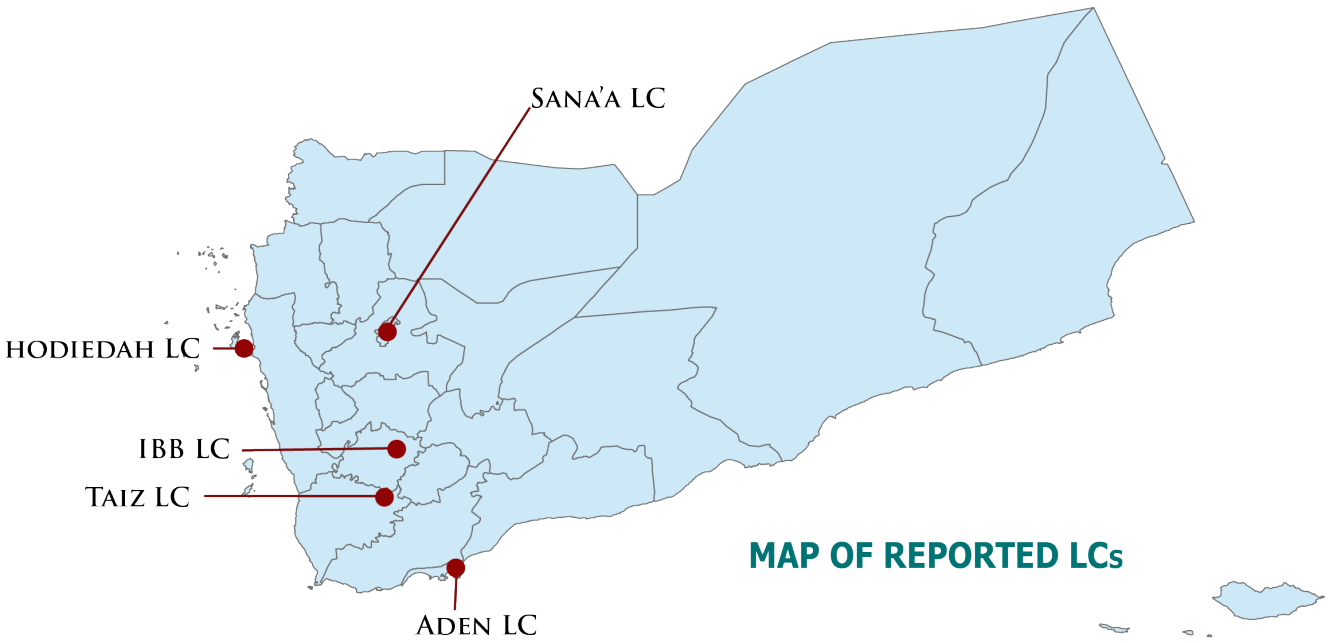
1. Emergency Operation Centre (WHO) (http://yemeneoc.org/bi/)

2 Reporting Methodology

Since the conflict erupted in Yemen in March 2015, the Ministry of Water and Environment 'MWE' with the assistance of the GIZ Water Sector Program 'GIZ IDWS', has initiated a process to monitor and report key performance indicators of selected LCs serving in metropolitan cities of Sana'a, Aden, Taiz, Hodeidah and Ibb.

The periodicity of reporting takes place on a quarterly basis for twenty-three resilience-oriented performance indicators to assist the Ministry of Water and Environment and other Water Sector Stakeholders to address the real and potential trends of performance with respect to the operational, financial and managerial resilience of the LCs during the consequences of the current crises. It also constitutes a useful reference for effective identification and/or assessing the impact of relevant sector interventions.

This report covers the period from July to September 2018, together with a brief technical analysis of key performance indicators in the context of each reported LC. The reporting exercise should not be regarded only by GIZ IDWS as an independent monitoring and evaluation 'M&E'. The M&E was carried out with data submitted and signed by the LCs' management through appointed focal points. The GIZ IDWS team made every effort to improve data quality by means of validation, analysis and subsequently, reviewing the results if necessary with the LCs for further clarification.

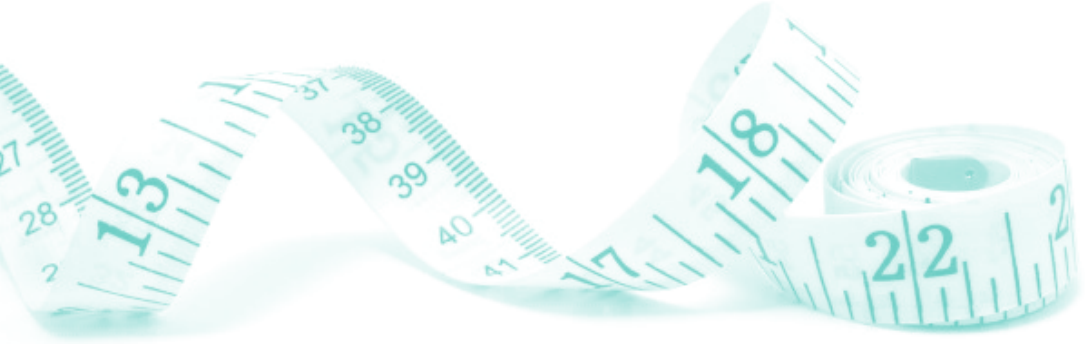


MAP OF REPORTED LCs

3 Emergency Water Sector Performance Indicators

The LCs' performance is inextricably bonded to 1) water coverage and reliability, 2) the operating and maintenance capacity, 3) the conditions of the production and distribution infrastructure and 4) the viability of the financial system. This report measures the resilience of the LCs in terms of the following category of key resilience-oriented performance indicators:

a. Service Coverage of Piped Water Supply	1. No. of population of urban centers (capita). 2. Number of IDPs in served area (capita). 3. Number of population served through water supply network (capita). 4. Water supply service coverage = population served through water supply network vs total population (%).
b. Service Days	5. Number of service days of piped water supply per month.
c. Storage Capacity and Production	6. Storage capacity (m^3). 7. Storage capacity (l/capita). 8. Total quantity of water pumped in the network (m^3 /month). 9. Per capita quantity of water pumped in the network (l/capita/day).
d. Energy Cost	10. Energy Cost per m^3 of water produced (YER/m^3).
e. Performance of Pumps and Generators	11. Number of main pumps for the water supply system. 12. Number of functional water pumps in service. 13. Number of main functional pump failures due to technical reasons (-/month). 14. Number of working hours of all operating pumps that pump water (hour/month). 15. Number of working generators in the operation of pumps. 16. Number of working hours of all operating generators used to run the functional pumps that pump water (hour/month).
f. Financial Viability	17. Collected revenues (YER/month). 18. Billed amount (YER/month). 19. Total operational costs (YER/month). 20. Collected revenues vs billed amount (%). 21. Actual operational cost coverage (%). 22. Monthly governmental subsidies (YER). 23. Percentage of basic monthly salaries paid (%).



4 Technical Analysis

a. Service Coverage of Piped Water Supply

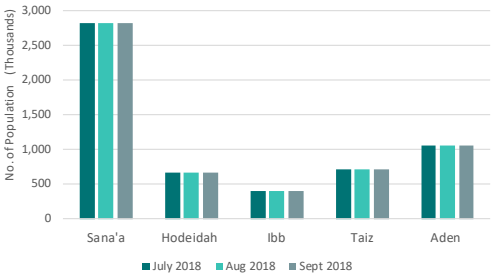
In the service area of the reported LCs, an average of 51% of the total urban population (5,642,225) is connected only to the public water supply system and has remained stagnant since early 2018. Water coverage varies from LC to LC, mainly due to population growth, operational efficiency and network extensions. In this quarter, 3 out of 5 LCs have a service coverage rate of more than 70% (Aden, Ibb & Hodeidah), while it is below 50% in others, such as Sana'a (34%) and Taiz (22%).

Indeed, being connected does not always implying that water for a reliable and frequent supply is guaranteed. Due to power supply interruptions, operational failures and deteriorated/damaged networks, the LCs cannot provide adequate water to the connected population. They have attempted to overcome the dilemma of frequent and/or permanent power failure by installing an increased number of power generators for the operation of the pumping stations. However, the severe fuel shortage (combined with a lack of funding) has led to enormous water production and supply deficiencies.

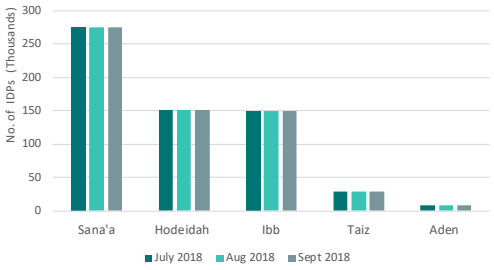
The private sector, alternatively, is perceived to be a major source of alternative water supplies to other urban populations that are not connected or do have poor access to the public network. As a matter of fact, the water tariff charged by the LCs is approximately about 3 to 4 times lower on average than those priced by the private suppliers.

In addition, the massive influx of IDPs seeking safe areas and shelters had to a large extent aggravated the burden of these LCs to adequately comply with humanitarian aid efforts. From August to September 2018, the number of households displaced from Hodeidah increased by 13,355, bringing the total number to 70,889 households (approximately 425,334 individuals) forced to leave their homes since the escalation of conflict in early June 2018[2]. The largest increases were seen in the safe districts of Hodeidah, Amanat Al Asimah and Taiz governorate. In order to bridge the gap in the acute lack of water supply, most relevant humanitarian actors have established several water distribution points in most IDP camps, along with urgent assistance provided to the LCs in an attempt to mitigate further hardships for the host communities.

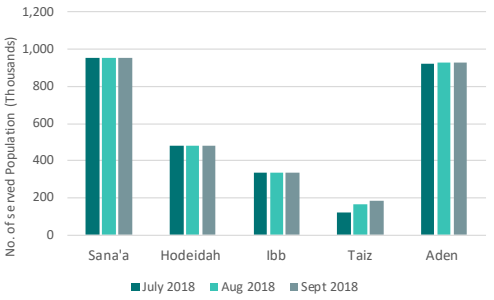
1. Number of population of urban centers (capita)



2. Number of IDPs in served area (capita)



3. Number of population served through water supply network (capita)



4. Water supply service coverage = population served through water supply network vs. total population (%)

2. Yemen — Emergency Tracking Tool Report 13 (26 September 2018) https://displacement.iom.int/system/tdf/reports/Origin_Displaced_Directions_From_Al_Hudaydah%20%2313_English.pdf?file=1&type=node&id=4331

b. Service Days

The scarcity of water resources in Sana'a governorate has constantly kept the LC of Sana'a susceptible to poorly fulfil the water demands and supply of the city population. Without additional connections and the lack of operational resources, the water supply will remain the shortest, maintained at maximum in this quarter by twice a month on average. While water supplies by Taiz LC were gradually resumed, mainly covering the geographical service range of the LC to serve on average 4 days/month in this quarter.

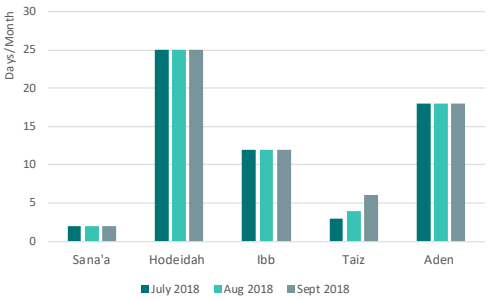
In order to maintain the service (25 day per month) at these critical times, the LC of Hodeidah still prioritizes obtaining diesel above other operating costs. Whereas Aden LC is utilizing the availability of the National Power Network for increasing water production and distribution (18 day/month). On the same record, an active institution such like Ibb LC has been able to boost water supplies since the First Quarter from 7 to 12 days a month because of fuel subsidy from the UNICEF.

The policy of rationing the distribution of water varied among the LCs and is controlled by specific contextual factors. The data provided by the LCs, unfortunately, complicated the further analysis of the equity of water supply and distribution. Nevertheless, direct observations at least revealed that not all connected customers are receiving fair services in certain areas, and this can be primarily regarded to technical and financial factors, three of which:

- Scarcity of water resources and electric power for production.
- The weakness of the network pressure that compromises fair distribution for those at the far end of the main pipeline.
- In perspective of the urgent need to collect operational revenues, some LCs deliberately schedule water supplies to zones and neighborhoods accommodated with high-income customers.

The frequency of supply is an indicator interlinked with other operational and financial performance of the LCs, and alarming for a potential damage to the physical network and its components. In addition, it also assists to extrapolate to which extent poor supply could directly contribute to public health concerns as well as measuring the impact of relevant humanitarian assistance provided to the LCs.

5. Number of service days of piped water supply per month



Average no. of service days per month

c. Storage Capacity and Production

The efficiency of water production depends on water resources, storage capacity and electricity/fuel availability. In contrast, water consumption (per capita share) is expressed as a total monthly water supplied to the network and the number of served people. The storage capacity of the LCs of Sanaa, Hodeidah, Ibb and Aden is serving 38, 52, 12 and 102 l/capita respectively.

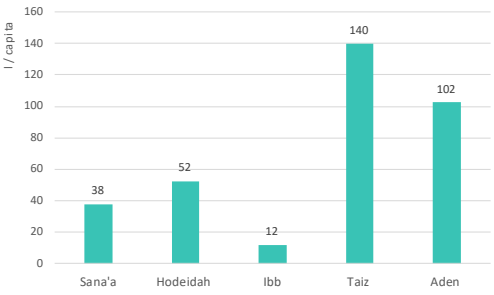
In Taiz LC, some wells are connected to the water reservoirs, or water is directly pumped into the network. Depending on the security conditions and accessibility, the LC was capable in this quarter to operate certain reservoirs with storage capacity 22,000 m³.

With respect to the water production and despite the promising improvement in some areas served by Sana'a LC. The results showed a minor regression (Aug & Sept 2018) in water production and on average per capita share of 28 l/day compared with the Second Quarter 26 l/day. The expected impacts on services due to the conflict erupted in Hodeidah city have degraded during this quarter the efficiency of water production by 20 %, with an average per capita share 61 l/day (relatively acceptable).

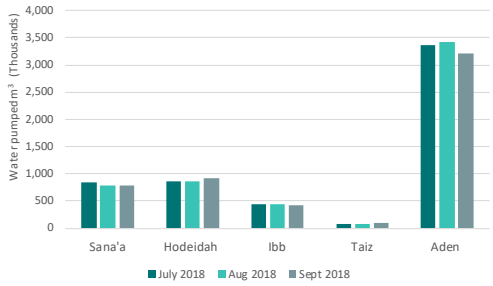
The declination trends of water production have been also witnessed in Ibb and Taiz LCs in view of the hard challenges to maintain the water production to record variance by 15% (Ibb LC) and 21% (Taiz LC) less than the Second Quarter. As for Aden LC, a minor variation was reported (-2%) in water production with an average water shares of 120 l/day per capita (highly acceptable).

6. Storage capacity (m³)

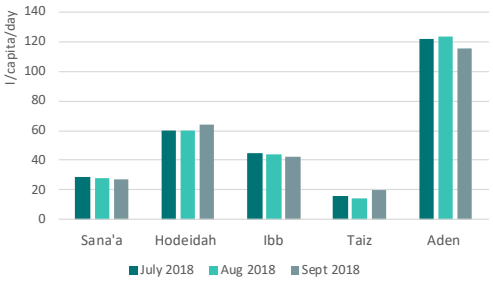
7. Storage capacity (l/capita)



8. Total quantity of water pumped in the network (m³/month)[3]



9. Per capita quantity of water pumped in the network (l/capita/day)[4]



l/capita. = Liter per Capita

3. The water quantity represents the production, not the billed water.
4. The calculation of per capita share of the water produced is based on LCs figures. The water supply provided by the private sector and/or humanitarian agencies was not monitored by the LCs and hence was not calculated in this report.

d. Energy cost

The frequent/entire cut-off of the National Electrical Grid posed a genuine challenge for the LCs to rely on and obtain an adequate amount of fuel for the operation of electric power generators. In times of scarcity and price inflation, the LCs have exhausted most of their efforts seeking for fuel. The energy costs were and still are one of the highest cost factors of the LCs' total operational costs.

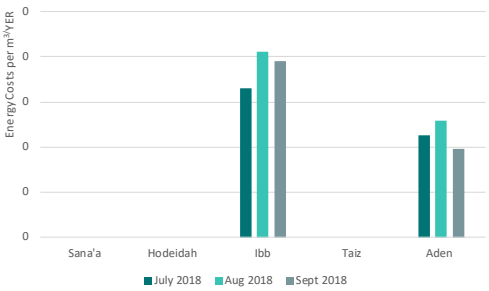
The analysis of the energy costs in this report was based on the actual costs paid by the LCs in order to measure the financial self-resilience regardless of the fuel subsidies received from the humanitarian organizations. LCs were, therefore, requested to rectify their financial reportings by eliminating non-actual (nominal) costs of subsidized fuel. For instance, energy costs account for 0% of the total operating costs of Sana'a LC, as fuel was adequately supplied on monthly basis during 2018 via the UNICEF, leaving the LC to some extent recovered to meet other financial obligations.

Accessibility restrictions on fuel transport and other lifeline supplies to the city of Hodeidah have led to massive inflation in prices. As a top fuel consumer, the financial standing of Hodeidah LC was therefore overloaded by additional operating costs - triggering a substantial fuel subsidy from the UNICEF, specifically since mid-2018, to strengthen the LC's operational capacity. Even Ibb LC, despite 40% of UNICEF fuel subsidies, had no exception in obtaining fuel with an average of 189 YER/m³ overwhelming roughly 30% of the total operating costs.

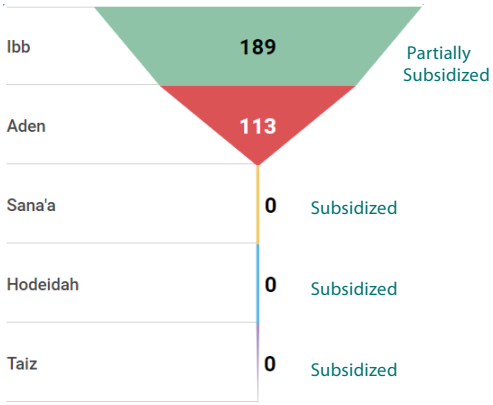
Taiz LC is also another fuel recipient wholly subsidized by the World Food Program 'WFP' to maintain the basic water services. Even though the LC supplies citizens with water almost free of charge. They were not financially affected in terms of overall operating expenses regarding energy costs.

Interestingly, Aden LC alone bears, the public electricity and fuel costs at an average of 113 YER/m³, which account for an enormous proportion of the total operating costs, explaining the extent to which energy costs hinder the LC to fulfil other liabilities.

10. Energy cost per m³ of water produced (YER/m³)[5]



Average energy cost (YER/m³)



Reduction on energy expenses[6]

The water utilities have to be released from their staggeringly huge power costs. Options to resume public power supply have to be investigated provided that suitable prices per kWh are applied. If security or other constraints do not allow for public electricity supply, alternatives should be found. Some of the LCs, like Dhamar, Hudaydah, and Sa'ada introduced pilot projects for the use of solar power for operating wells. The necessary investments for solar power measures have been estimated and incorporated in the investment plan for those LCs where it is applicable. In Dhamar, Hudaydah including the affiliated utilities, Abyan, Lahij, Aden and Sa'ada solar power would be a suitable alternative to the generators. First estimations indicate that the use of solar systems would reduce the operational cost by about 30 % of current electricity cost. Other options for other alternative energy sources as wind energy, geothermal energy, and biogas have to be investigated through Feasibility Studies individually for the LCs as outlined in more details in Chapter 6.4.3.

5. 1 Euro € ≈ 609 YER
   1 US $ ≈521YER (Sept,2018)
   Source: InfoEuro (http://ec.europa.eu/budget/contracts_grants/info_contracts/inforeuro/index_en.cfm)
6. GIZ IDWS/Damage Assessment Study DAS Stage 3 – Part 1: Resilience Strategy Report – Enhancing the Resilience of the LCs during Conflict and in Post-conflict Scenario - 2018

e. Performance of pumps and generators

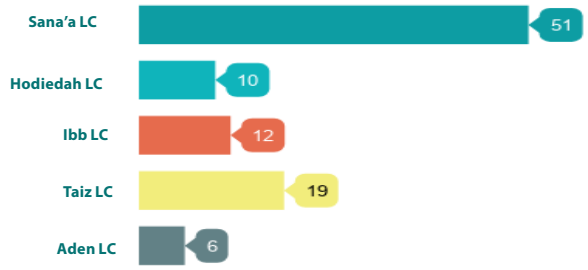
Since 2015, the financial constraints and the suspension of investment programs have prevented the LCs from maintaining their infrastructure adequately. At the same time, donor organizations have provided urgent subsidies for fuel and equipment such as spare parts, pumps, generators and for small-scale investments. However, due to the massive impact of the prolonged fragile situation, the LCs were not fully supplied with frequently rising demands for urgent materials, equipment and fuel.

Basically, LC Sana'a has deployed three additional pumps in this quarter to run 53 of the 104 main pumps (51%) to maintain the water production rate by an average of 10 hours a day. Meanwhile, Hodeidah LC was only able to operate 26 running pumps at a low performance by (-11%) compared with the Second Quarter. This can be attributed to the highest records of pump failures, lack of spare parts and overworking (23 hours a day) under severe humidity and temperature.

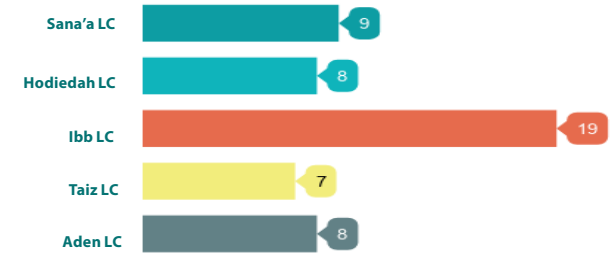
Ibb LC was able to steadily employ the full capacity of the electric generators to run approximately 90% of the main pumps at 20 hours per day and to maintain a reliable water production for most of the city. Due to fragile access security to operating wells. Taiz LC was unable to run an adequate number of operational pumps this quarter. Consequently, the rate of water production has declined from 8 to 6 hours a day.

Compared to other LCs, Aden LC operated about 93 of the 126 water pumps for water production on average 22 hours a day. This promising capacity can also be viewed as a twofold strength for Aden LC in terms of (i) the availability of the public electricity system and (ii) the minimal dependence on electric generators.

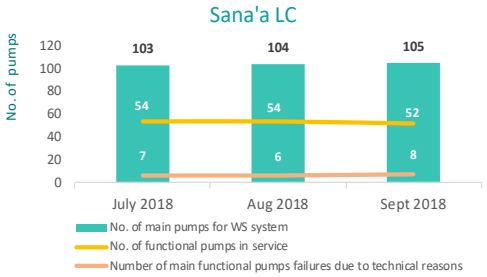
15. Number of working generators in the operation of pumps.

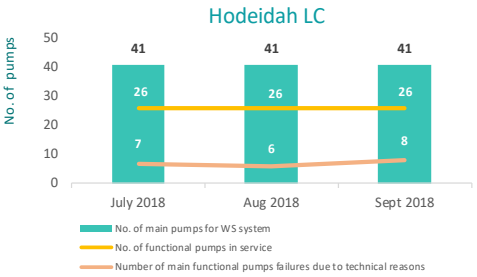


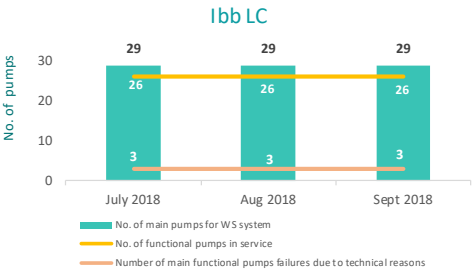
16. Number of working hours of all operating generators used to run the functional pumps that pump water (h/day).

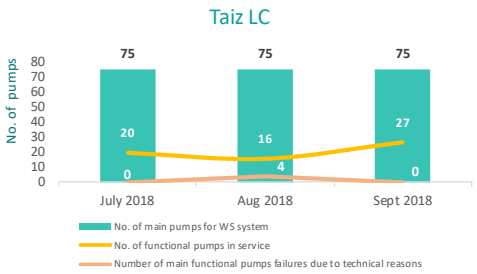


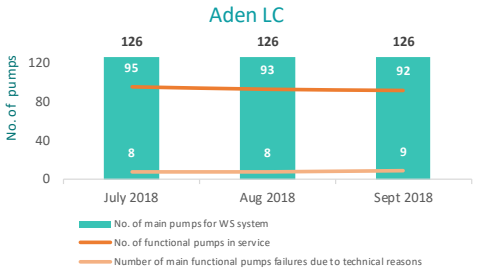
11. Number of main pumps for the water supply system[7]
12. Number of functional water pumps in service
13. Number of main functional pump failures due to technical reasons (-/month)



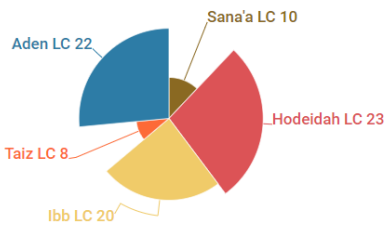








14. Number of working hours of all operating pumps that pump water (h/day)



7. The number of pumps represent the pumps in well fields and in pumping station in network.

f. Financial Viability

Depending on the tariff and customer structure, revenues from water sales, sanitation and new connections are in normal circumstances; the main source of revenue for LCs and, if collected efficiently, would be sufficient to cover the total operating costs. These comprise costs for monthly running expenses like salaries, fuel, electricity, spare parts for O&M and some minor other costs. Salary and fuel are the highest cost factors in the overall operating costs. The energy expenditure has increased significantly, leading to a reduced budget for the necessary O&M activities.

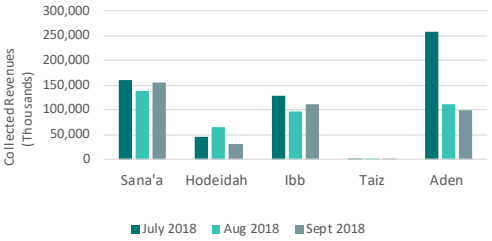
As a result of ongoing efforts to improve their financial resources, service charges were effectively billed by Sana'a LC since beginning of 2018. The GIZ Water Program also supported the LC with Personal Digital Assistance (PDAs) to improve the quality of billing collection. This improvement was associated with an increase of 13% in revenue collected from the customers who ultimately realized the unbearable cost burdens paid to the water tankers. During 2018, the LC was exempted from the energy costs constantly subsidized by the UNICEF to insure in this quarter on average 82% of the cost coverage.

Hodeidah LC's collection efficiency had decreased by 7% over the second quarter due to the consequences of the security turmoil that hit the city in mid-June 2018. The LC also incurred enormous operating costs in this quarter with an average cost coverage deficit of 79%. Ibb LC was financially regulated to stabilize their monthly running costs in conjunction with an incredible average collection efficiency of 91% and 18% higher than the Second Quarter. Indeed, this was reflected in the ability to cover 70% of operating costs. (Note: subsidized fuel was counted among the operational costs by Hodeidah and Ibb LC).

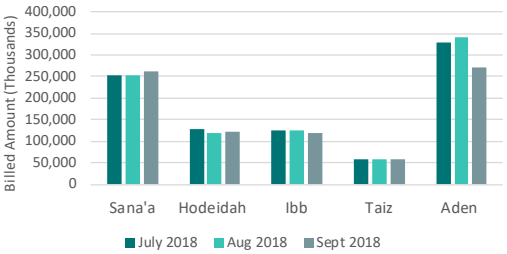
To this moment, since energy costs and salaries are externally subsidized. Taiz LC in fact does not rely on water sales and revenues to cover their operating costs. The low collection efficiency of 2% clearly indicates inactive reading and billing process, lack/damage in meters connections and infrastructure. With the external mobilization to support the LC through the rehabilitation of the water and sewer networks and installation of new connections, the LC must revitalize their financial viability and express their readiness to manage effective billing and collection procedures.

The LC of Aden has rendered a different image in this quarter by taking corrective institutional measures to enhance their billing and collection system against the acceptable level of service provided to their customers. Therefore, an improvement in collection efficiency of 49% was accompanied by 15% increase in the operating costs coverage 42%. For important considerations, the LC must gradually attempt to recover and skip from the state of conflict repercussion and strive for sufficient financial resources to withstand unexpected financial tragedies such as discontinuity of external support.

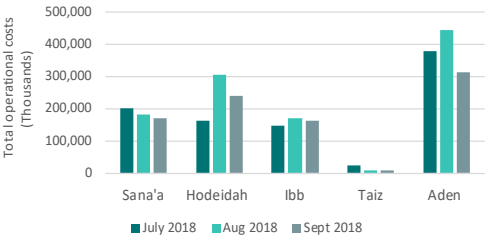
17. Collected revenues (YER/month)[8]



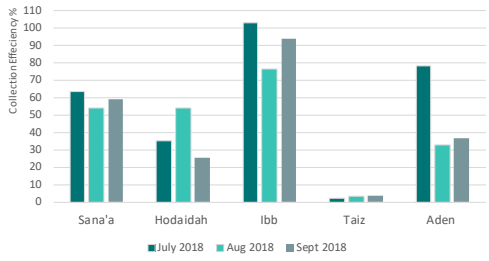
18. Billed amount (YER/month)



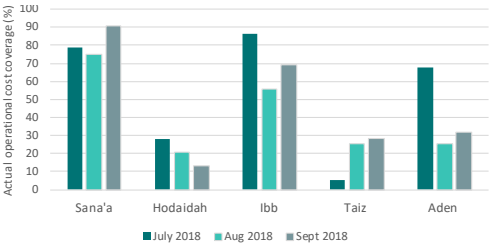
19. Total operational costs (YER/month)



20. Collected revenues vs. billed amount (%)



21. Actual operational cost coverage (%)

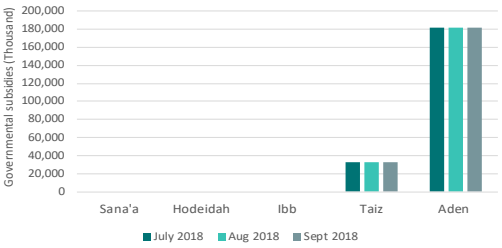


8. Revenues including domestic, commercial & governmental collection

Monthly governmental subsidies

Unfortunately, government support has been reduced drastically since 2015. However, some LCs have been occasionally supported by other financial channels. As an example, Aden and Taiz LCs receive a fixed monthly allocation from the Ministry of Finance in Aden to pay their staff salaries, while other LCs depend entirely on their water sales.

22. Monthly governmental subsidies



Percentage of basic monthly salaries paid (%)

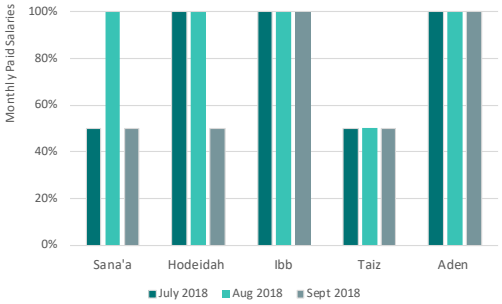
Efficient coping strategy and external assistance have gradually enabled the LCs in managing salary payments, which varied significantly according to respective operational and financial conditions. It should be noted that payroll is reported for the actual payments received monthly by the employees, regardless of the fact that some LCs reimburse late payments of the basic salaries retroactively. It was observed that LCs of Sana'a & Hodeidah were in distress to regularly cover 100% of monthly salary entitlements, where most of the liquidity available was expensed to cover other heavy operating costs.

Ibb LC has effectively overcome this challenge in paying 100% of the monthly salaries. This is due to the fact of collective efforts and perseverance of LC management which aspires and succeeded to satisfy their customers to willingly pay for services that could hopefully be adequate to cover the operating costs.

To date, salary payment is a point of debilitation for Taiz LC to resolve through the water sales. As a matter of urgent measure, incentives were paid intermittently for the duty staff as one of the assistance packages provided to the LC. In the same context, the LC receives on a constant basis about 50% of their salaries from the Ministry of Finance in Aden, and the marginal collected revenues contribute only to cover some basic items of the operating costs.

Although they barely cover any other operational costs. Aden LC has found no impediments and was able to secure 100% monthly salaries from the Ministry of Finance. This led to the same conclusion for the LC to devise alternate solutions to promote their financial resilience and sustainability.

23. Percentage of basic monthly salaries paid (%)



5 Resilience factors[9]

Disruptions of water supply and sanitation services can be caused by adverse effects on any one of the components that make up the service: people (e.g. skilled staff), hardware (e.g. infrastructure, equipment) and consumables (e.g. fuel, equipment, spare parts). Neither of these components is sufficient on its own. It is pointless having the spare parts required to repair electric generators, for instance, if the only technical staff able to install them are lacking the pertaining capacities and skills.

The LCs must increasingly strive to become more resilient and maintain services during/post-conflict. They must, therefore, address long-standing vulnerabilities in order to mitigate the cumulative effects of the conflict and gradually reduce their dependence on external short-term assistance.

At present, external assistance programmes, instead of sporadic crisis interventions, must seek to intervene in technical and investment measures. While these interventions may be essential during relief efforts, the resumption and strengthening of the LCs' capacity are equally synonymous with building resilience. It is the resilience that allows the LCs to maintain the reliable delivery of services in the short, medium and long-term. The table beside presents the identified resilience factors with their expected impact after the implementation of related activities.

RESILIENCE MEASURES AND IMPACT

Main Activity	Resilience Factor	Impact
Technical Assistance – Capacity building	Improve governance and management skills on top level.	• Support and guide the LC management during the crisis in the decision making of required actions and measures. • Enable managers and key staff to prepare and introduce customized policies and procedures to increase the performance of the utility. • Enhance the coordination and cooperation among the different stakeholders (donors). • Enhance monitoring, evaluation and accountability of the LC to increase the performance.
Technical Assistance – Capacity building, Financial support, Consultancy support, equipment support	Enhance the work capacity and skills of the employees. Human resource development	• Operate the utility more efficient and organized. • Improve coordination and cooperation among different departments. • Improve and increase the service for customers. • Manage professionally the exceptional work. Environment and the new technologies. • Reduce administrative water losses and increase revenue collection.
Technical Assistance – Financial support, Awareness building; Coaching, Investments	Strengthen the financial capacity of the utility.	• Ensure financial means at least to cover the minimum needs for operation of the utility. • Enable urgently needed repair and maintenance of the infrastructure. • Initiate pro-poor projects. • Keep motivated staff. • Enhance financial sustainability.
Technical Assistance – Awareness building, Operation Management Support	Improve customer management and customer relation.	• Increase service coverage and numbers of customers. • Enhance billing and collection procedures. • Increase collection efficiency and revenues. • Establish good customer relation to improve payment moral.
Investment – Rehabilitation, Maintenance, Extension	Increase water service coverage and supplied quantities.	• Increase water availability for urban residents. • Improve water supply condition. • Reduce physical water losses. • Increase number of customers. • Improve water quality.
Investment – Rehabilitation, Maintenance, Extension	Improve and extend sewer system.	• Improve hygiene and health situation for urban residents. • Protect environment and water sources. • Increase number of customers.
Investment	Provide renewable energy system (Photovoltaic).	• Operate water and sanitation facilities sufficiently. • Operate LC offices during working hours. • Reduce operation and maintenance costs.

9. GIZ IDWS/Damage Assessment Study DAS Stage 3 – Part 1: Resilience Strategy Report – Enhancing the Resilience of the LCs during Conflict and in Post-conflict Scenario - 2018

Annex Resilience Emergency Indicators Sheet July - Sept 2018

Urban Water Sector - Sana'a LC, Aden LC, Hodeidah LC, Ibb LC & Taiz LC

No.	Data / Indicator	LC	Unit	1st Q			2nd Q			3rd Q		
				Jan-18	Feb-18	Mar-18	April-18	May -18	June -18	July-18	Aug -18	Sept -18
1	عدد السكان في المراكز الحضرية المخدومة من قبل مزود الخدمة (شهري في نهاية الشهر) Number of Population of urban centers	Sana'a	Cap	2,821,334	2,821,334	2,821,334	2,821,334	2,821,334	2,821,334	2,821,334	2,821,334	2,821,334
		Hodeidah		655,686	657,452	659,223	660,999	662,780	664,566	666,356	668,151	669,952
		Ibb		396,786	396,786	396,786	391,557	391,557	391,557	391,557	391,557	391,557
		Taiz		700,049	701,983	703,922	703,916	705,210	706,506	707,805	709,106	710,409
		Aden		1,052,074	1,052,074	1,052,074	1,052,074	1,052,074	1,052,074	1,052,074	1,052,074	1,052,074
2	عدد النازحين الى مناطق امتياز مزود الخدمة (شهري في نهاية الشهر) Number of IDPs in the served Area	Sana'a	Cap	158,604	158,604	158,604	166,380	166,380	215,346	150,540	150,540	150,540
		Hodeidah		–	–	–	–	–	133,830	151,692	151,692	151,692
		Ibb		99,687	99,687	99,687	150,000	150,000	190,392	150,000	150,000	150,000
		Taiz		–	–	–	–	–	387,426	29,148	29,148	29,148
		Aden		–	–	–	–	–	50,178	8,088	8,088	8,088
3	عدد السكان المخدومين بالمياه من قبل مزود الخدمة (شهري في نهاية الشهر) Number of population served through water supply network	Sana'a	Cap	911,370	911,370	911,370	954,580	954,580	954,580	954,580	954,580	954,580
		Hodeidah		476,322	476,756	477,288	477,820	478,212	478,212	478,625	478,506	478,345
		Ibb		324,280	326,720	328,000	330,000	331,640	332,650	333,310	334,610	336,200
		Taiz		225,266	182,752	76,176	150,021	226,109	156,345	123,332	165,001	184,705
		Aden		781,254	784,920	786,456	921,004	923,202	923,832	924,840	926,289	926,310
4	نسبة عدد السكان المخدومين بالمياه من قبل مزود الخدمة من اجمالي السكان (شهري في نهاية الشهر) Water supply service coverage = population served through water supply network vs. total population	Sana'a	%	32	32	32	34	34	34	34	34	34
		Hodaidah		73	73	72	72	72	72	72	72	71
		Ibb		82	82	83	84	85	85	85	85	86
		Taiz		32	26	11	21	32	22	17	23	26
		Aden		74	75	75	88	88	88	88	88	88
5	عدد ايام تزويد الخدمة خلال الشهر (تزويد المياه من خلال شبكة التوزيع) Number of service days of piped water supply per month	Sana'a	day / month	1	1	2	2	2	2	2	2	2
		Hodeidah		25	25	25	25	25	25	25	25	25
		Ibb		7	7	7	7	12	12	12	12	12
		Taiz		6	5	1	5	6	5	3	4	6
		Aden		18	18	18	18	18	18	18	18	18
6	إجمالي كمية المياه المضخة من خلال شبكة التوزيع Total Quantity of water pumped in the network	Sana'a	m^3 / month	496,906	383,908	819,326	804,320	855,672	686,021	835,225	791,194	783,839
		Hodeidah		1,135,689	935,422	1,081,749	1,051,616	1,077,058	1,040,184	858,594	864,086	916,727
		Ibb		510,892	510,922	479,325	524,057	476,644	512,375	448,593	440,696	421,887
		Taiz		95,920	68,065	24,980	67,011	131,566	91,625	77,022	69,182	93,722
		Aden		3,291,000	3,103,000	3,406,000	3,358,777	3,616,639	3,179,221	3,369,701	3,426,156	3,206,819
7	نصيب الفرد من المياه المضخة في الشبكة Per capita quantity of water pumped in the network	Sana'a	l / cap / day	18	14	29	27	29	23	28	27	26
		Hodeidah		77	63	73	71	73	70	58	58	62
		Ibb		51	50	47	51	46	50	43	42	40
		Taiz		14	12	11	14	19	19	20	14	16
		Aden		136	128	140	118	126	111	118	119	112
8	تكلفة الطاقة لكل متر مكعب منتج من المياه خلال الشهر Energy Costs per m^3 water produced	Sana'a	YR / m^3	0	0	0	0	0	0	0	0	0
		Hodeidah		46	50	90	0	0	0	0	0	0
		Ibb		171	171	183	167	184	171	165	206	195
		Taiz		0	0	0	0	0	0	0	0	0
		Aden		90	108	111	111	93	152	113	129	98

No.	Data / Indicator	LC	Unit	1st Q			2nd Q			3rd Q		
				Jan-18	Feb-18	Mar-18	April-18	May -18	June -18	July-18	Aug -18	Sept -18
9	الطاقة التخزينية الشهرية المتاحة Storage capacity	Sana'a	m^3	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000
		Hodeidah		25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
		Ibb		4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
		Taiz		11,500	11,500	11,500	22,002	22,002	22,002	22,002	22,002	22,002
		Aden		94,783	94,783	94,783	94,783	94,783	94,783	94,783	94,783	94,783
10	نصيب الفرد من الطاقة التخزينية المتاحة Storage capacity share per capita	Sana'a	l/cap	40	40	40	38	38	38	38	38	38
		Hodeidah		52	52	52	52	52	52	52	52	52
		Ibb		12	12	12	12	12	12	12	12	12
		Taiz		51	63	151	147	97	141	178	133	119
		Aden		121	121	121	103	103	103	102	102	102
11	إجمالي عدد المضخات الرئيسية Total number of main pumps for the water supply system	Sana'a	No.	102	102	102	102	102	102	103	104	105
		Hodeidah		41	41	41	41	41	41	41	41	41
		Ibb		29	29	29	29	29	29	29	29	29
		Taiz		75	75	75	75	75	75	75	75	75
		Aden		126	126	126	126	126	126	126	126	126
12	عدد المضخات الرئيسية العاملة والتي تضخ المياه خلال الشهر Number of functional pumps in service	Sana'a	No.	43	36	54	54	56	55	54	54	52
		Hodeidah		29	29	29	29	29	29	26	26	26
		Ibb		26	26	26	26	26	26	26	26	26
		Taiz		31	27	19	24	28	28	20	16	27
		Aden		90	100	106	94	93	93	95	93	92
13	عدد ساعات عمل (تشغيل) المضخات (كل المضخات العاملة والتي تضخ المياه) في الشهر Number of working hours of all operating pumps that pumps water	Sana'a	h / month	9,828	7,764	13,837	16,974	18,623	15,477	18,326	17,412	17,118
		Hodeidah		19,550	15,780	17,927	17,759	18,352	18,242	15,206	15,539	16,242
		Ibb		14,391	14,392	13,502	15,720	15,720	15,720	16,260	16,260	16,260
		Taiz		5,302	3,797	1,264	3,610	7,227	4,694	3,977	4,261	5,798
		Aden		64,601	64,682	64,366	61,931	64,533	59,079	61,053	61,243	57,670
14	عدد الاعطال الناتجة عن اسباب فنية خلال الشهر للمضخات الرئيسية العاملة في ضخ المياه Number of main functional pumps failures due to technical reasons	Sana'a	/	6	4	7	12	5	6	7	6	8
		Hodeidah		8	10	7	16	12	8	14	15	13
		Ibb		3	3	3	3	3	3	3	3	3
		Taiz		0	4	1	2	1	0	0	4	0
		Aden		–	–	–	7	5	9	8	8	9
15	عدد المولدات العاملة في تشغيل المضخات Number of working generators in the operation of pumps	Sana'a	No.	6	6	49	52	52	52	52	52	49
		Hodeidah		11	11	11	11	11	11	10	10	10
		Ibb		12	12	12	12	12	12	12	12	12
		Taiz		27	26	18	23	26	26	18	14	26
		Aden		–	–	–	2	2	2	6	6	6
16	عدد ساعات عمل (تشغيل) المولدات (كل المولدات العاملة المستخدمة في تشغيل المضخات لضخ المياه) خلال الشهر Number of working hours of all operating generators used to run the functional pumps that pumps water	Sana'a	No.	2,548	2,205	9,127	12,533	15,406	12,178	14,709	13,115	13,361
		Hodeidah		2,701	2,921	3,130	5,484	5,490	5,420	2,211	2,197	2,683
		Ibb		4,912	4,913	4,609	7,140	7,140	7,140	7,080	7,080	7,080
		Taiz		5,302	3,797	1,264	3,643	7,307	4,759	4,004	3,481	5,005
		Aden		–	–	–	100	150	180	1,512	1,566	1,566

No.	Data / Indicator	LC	Unit	1st Q			2nd Q			3rd Q		
				Jan-18	Feb-18	Mar-18	April-18	May -18	June -18	July-18	Aug -18	Sept -18
17	قيمة الايرادات الشهرية المحصلة Collected revenues	Sana'a	YR / month	107,995,495	126,904,963	120,528,387	137,281,901	136,472,408	117,608,430	159,634,358	137,172,315	154,667,829
		Hodeidah		75,224,010	74,474,656	78,612,051	69,441,783	56,829,220	31,159,535	45,203,460	63,793,432	31,489,736
		Ibb		111,929,351	105,317,621	104,125,088	101,655,753	103,695,045	90,430,797	128,283,843	95,703,011	112,597,492
		Taiz		245,000	301,000	511,500	649,880	1,284,000	1,442,980	1,311,600	1,800,000	2,017,000
		Aden		124,455,515	116,641,407	124,485,813	122,502,882	103,572,012	70,329,130	257,358,780	111,440,948	99,503,244
18	قيمة الايرادات الشهرية المفوترة (قيمة مبيعات المياه الشهرية المفوترة) Billed amount	Sana'a	YR / month	233,018,823	233,098,029	242,708,174	250,412,935	263,701,936	247,407,726	251,603,779	254,069,346	262,151,806
		Hodeidah		130,297,953	114,570,797	120,689,068	129,545,587	127,783,997	126,588,513	129,199,752	118,378,877	122,962,007
		Ibb		122,096,750	128,118,681	115,575,324	130,903,158	127,062,768	136,595,765	124,378,480	124,786,029	120,162,710
		Taiz		58,405,496	58,405,496	58,405,496	58,451,610	58,451,610	58,496,464	58,526,717	58,564,106	58,619,550
		Aden		369,991,199	366,253,993	351,006,382	340,342,134	332,527,223	312,926,450	327,895,831	339,928,507	270,000,000
19	إجمالي التكاليف التشغيلية Total operational costs	Sana'a	YR / month	151,830,890	190,576,588	179,967,557	191,909,769	291,525,780	165,837,810	203,047,692	182,243,220	170,679,087
		Hodeidah		144,669,788	113,378,469	163,237,192	113,901,721	155,577,191	231,132,726	161,803,261	305,816,091	238,850,024
		Ibb		148,877,285	158,482,479	156,139,001	147,175,871	155,121,489	177,786,575	148,976,661	170,933,038	162,495,622
		Taiz		22,678,776	20,211,550	9,193,500	18,434,803	38,094,600	26,388,450	24,842,750	7,116,000	7,118,800
		Aden		295,909,085	336,166,277	0	371,889,702	335,662,317	482,614,742	379,381,281	442,794,696	315,080,741
20	نسبة التحصيل Collected revenues vs. billed amount	Sana'a	%	46	54	50	55	52	48	63	54	59
		Hodaidah		58	65	65	54	44	25	35	54	26
		Ibb		92	82	90	78	82	66	103	77	94
		Taiz		0	1	1	1	2	2	2	3	3
		Aden		34	32	35	36	31	22	78	33	37
21	التغطية التشغيلية المحصلة للكلفة Actual operational cost coverage	Sana'a	%	71	67	67	72	47	71	79	75	91
		Hodaidah		52	66	48	61	37	13	28	21	13
		Ibb		75	66	67	69	67	51	86	56	69
		Taiz		1	1	6	4	3	5	5	25	28
		Aden		42	35	33	33	31	15	68	25	32
22	قيمة الاعانات (المعونات) الحكومية الشهرية لمزود الخدمة Monthly governmental subsidies	Sana'a	YR	0	0	0	0	0	0	0	0	0
		Hodeidah		0	0	0	0	0	0	0	0	0
		Ibb		0	0	0	0	0	0	0	0	0
		Taiz		33,000,000	33,000,000	33,000,000	33,000,000	33,000,000	33,000,000	33,000,000	33,000,000	33,000,000
		Aden		182,146,000	182,146,000	182,146,000	181,646,794	181,646,794	181,646,794	182,146,000	182,146,000	182,146,000
23	نسبة الرواتب الاساسية الشهرية المدفوعة للموظفين Percentage of basic monthly salaries paid	Sana'a	%	50%	50%	50%	50%	50%	50%	50%	100%	50%
		Hodeidah		0%	0%	0%	50%	50%	50%	100%	100%	50%
		Ibb		100%	100%	100%	100%	100%	100%	100%	100%	100%
		Taiz		50%	50%	50%	50%	50%	50%	50%	50%	50%
		Aden		100%	100%	100%	100%	100%	100%	100%	100%	100%

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Aden LC, Hodeidah LC, Ibb LC, Sana'a LC, Taiz LC are responsible for the content of this publication.