التعاون الألماني
DEUTSCHE ZUSAMMENARBEIT

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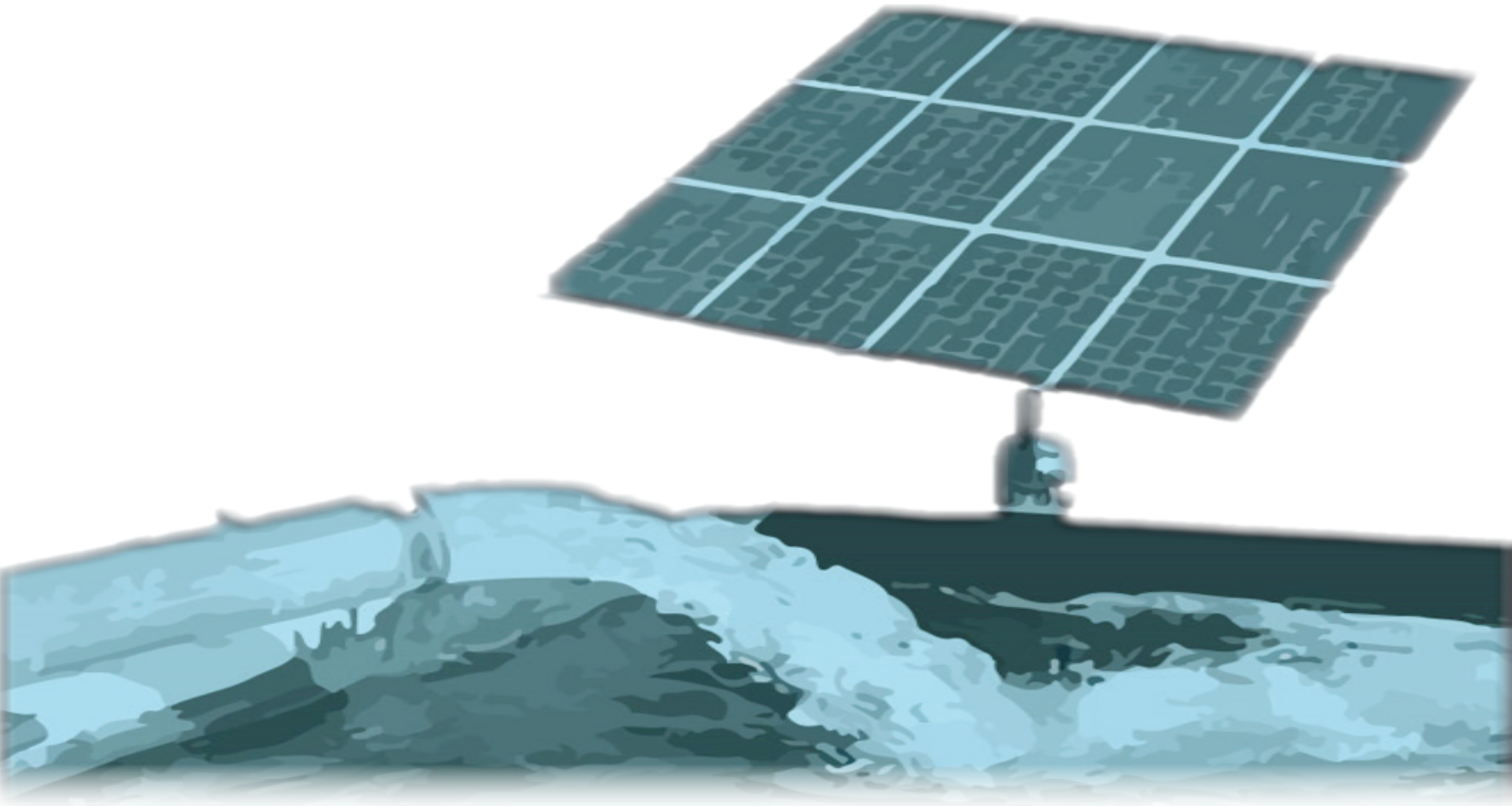


Resilience - Oriented Indicators Overview

Yemen Water Sector Performance Indicators

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

3rd Quarter

July – September 2020

IBB-WSLC

SWSLC

Contents

List of Abbreviation

BOD	Biological Oxygen Demand
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GIZ-IDWS	GIZ project 'Institutional Development of the Water Sector'
LCs	Water Supply and Sanitation Local Corporations
MWE	Ministry of Water and Environment
NWRA	National Water Resource Authority
PDA	Personal Digital Assistant
WASH	Water, Sanitation and Hygiene
WWTPs	Wastewater Treatment Plant

1 Overview

The urban population in Yemen is supplied with drinking water through a large number of water supply systems. Most systems are public and managed through the Water and Sanitation Local Corporations (LCs) and their affiliated water utilities and branches, and others are private like water tanker suppliers. Sewerage networks are available and cover only a certain percentage of the population.

Since the situation in Yemen has been greatly exacerbated by the conflict and its repercussion in 2015. The LCs are operating under different institutional, administrative, operational, and financial conditions. They are encountering several challenges to secure an enabling environment that allows for service quality improvement, cost recovery and financial sustainability. 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 significant impact of water and wastewater services on life and public health of the population, ensuring financial sustainability and good service quality is crucial. Hence, 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 confirmed that conflict and fragility can be extremely disruptive to these interrelated elements, and how the quality of service delivery could be degraded to a point of no return or perpetuating the "vicious cycle" of managerial, financial and operational deficiencies, and in due course, leads to 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 of the service delivery and providers.

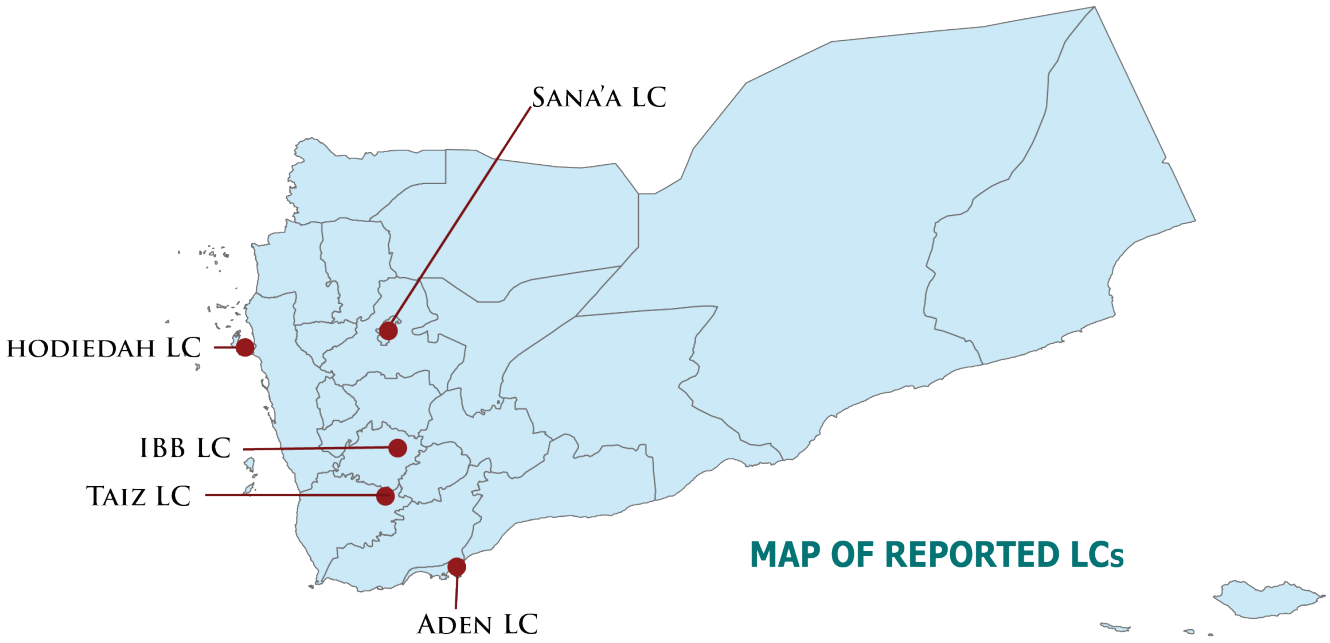
One of the utmost consequences of poor sanitation and low access to clean drinking water has had catastrophic hygiene and health effects by forcing the vast majority of the urban population to rely on unsecured alternative water supplies, making them susceptible to water-borne diseases. The outbreak of cholera, on the other hand, has placed a burden on the social responsibility and mandate of the LCs. Yemen has also reported its first case of COVID-19 in April 2020 and the severity of the current response to COVID-19 posed grave detrimental impacts on WASH service provision and sustainability, which are vital to disease prevention, core to survival and protection. To confront and mitigate further severity of pandemics, the WASH Cluster and the other Humanitarian Societies have mobilized the possible resources to support the resilience of the LCs with urgent operational measures to secure the continuity of safe drinking water supply and wastewater treatment.

Improving the performance of LCs is challenging because the problems they face are multidimensional. Problems associated with dysfunctional and intricated business processes, cannot be overcome solely by short-term emergency measures. Achieving resilient and sustained service delivery requires a framework that integrates institutional measures with short/mid/long term investments to increase the efficiency and to reverse the dysfunctional equilibria in which the LCs operate.

2 Performance Monitoring Methodology

Since the conflict broke out in late 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. These performance monitoring reports are based on financial, technical and operational performance indicators that are commonly used for the urban water sector. In addition, further reviews were integrated in 2019, summing up from 23 to 39 resilience-oriented performance indicators adapted to fit with the contextual situation, monitoring purposes and constitutes a valuable reference for effective evaluation of the impact of relevant sector interventions.

This report covers the period from July to September 2020, together with a brief technical analysis of key indicators on different ranges of performance of each reported LC. The reporting exercise should not be perceived only as unilateral monitoring by GIZ IDWS, the process was carried out with data submitted and signed by the LCs' management through appointed focal points. Many clarifications were sought on the data provided especially for consistency and reliability of data and indicators. In some instances, estimates were given by the LCs in the absence or lack of systematic information. Nevertheless, 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 quality assurance; thus, the data finally presented are the best that could be obtained in the circumstances.



MAP OF REPORTED LCs

3 Emergency Water Sector Performance Indicators

This report measures the resilience of the LCs in terms of the following category of key resilience-oriented performance indicators:

a. Service Coverage, Service Levels and Quality - Piped Water Supply

1. Total population in service area (capita)
2. Number of IDPs in service area (capita)
3. Number of water connections (No.)
4. Number of population served through water supply network (capita)
5. Water supply service coverage = population served through water supply network vs total population in service area (%)
6. Number of service days of piped water supply per month (day/month)
7. Number of residual chlorine samples taken (No./month)
8. Number of residual chlorine samples according to standards (No./month)
9. Proportion of bacteriological quality samples of distributed water according to standards = Number of residual chlorine samples according to standards per total number of samples taken (%)

b. Service Coverage and Quality - Sewerage

10. Number of population served with sewerage connections (capita)
11. Number of sewerage connections (No.)
12. Sewerage connection coverage = population served through sewerage network vs total population in service area (%)
13. Number of BOD-samples of effluent of WWTP taken per month (No./month)
14. Number of BOD-samples of effluent of WWTP according to standards per month (No./month)
15. Proportion of effluent quality samples of wastewater treatment plants according to standards = Number of BOD samples according to standards per total number of samples taken (%)
16. Average BOD value of raw influent at WWTP (mg BOD_5/l)
17. Average BOD value of treated effluent at WWTP (mg BOD_5/l)
18. Treatment efficiency of WWTP regarding BOD (%)

c. Production and consumption

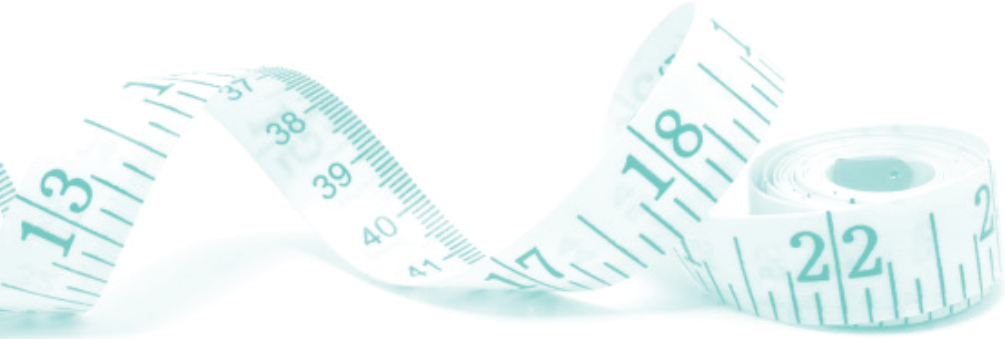
19. Total quantity of water produced (m^3/month)
20. Per capita quantity of water produced (l/cap/day)
21. Storage capacity (m^3)
22. Storage capacity share per capita (l/cap)
23. Energy costs per m^3 water produced (YER/m^3)
24. Effluent produced (m^3/month)
25. Effluent produced (l/cap/day)
26. Effluent treated in wastewater treatment plant (m^3/month)

d. Performance of Pumps and Generators

27. Total number of main pumps for the water supply system (No.)
28. Number of functional pumps in service (No.)
29. Number of working hours of all operating pumps of the water supply system (h/month)
30. Number of main functional pumps failures due to technical reasons (No./month)
31. Number of working generators in the operation of pumps (No.)
32. Number of working hours of all operating generators used to run the functional pumps of the water supply system (h/month)

e. Financial Sustainability

33. Total collected operational revenues (YER/month)
34. Total billed operational revenues (YER/month)
35. Total operational costs (YER/month)
36. Collection efficiency = Collected revenues vs. Billed revenues (%)
37. Actual operational cost coverage (%)
38. Monthly governmental subsidies (YER/month)
39. Percentage of basic monthly salaries paid (%)



4 Technical Analysis

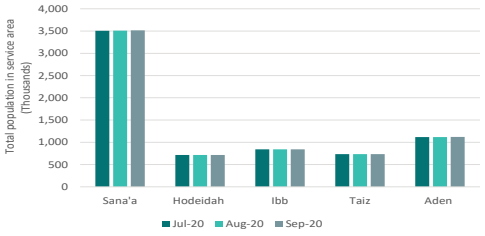
a. Service Coverage, Service Levels and Quality - Piped Water Supply

The service coverage indicator aims for demonstrating the physical accessibility of households that are connected to the distribution system expressed as a percentage of total number of populations in the served area. While access to infrastructure has advanced slowly in some areas; access to reliable and sustainable water supply remains challenging in general.

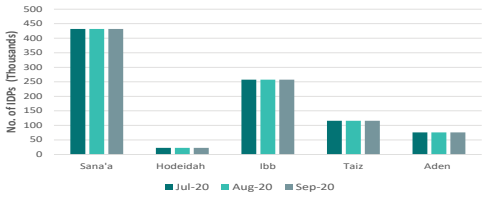
In the service area of the reported LCs, an average of 50% of the total urban population is connected to the public water supply system. Water coverage varies from LC to LC given the urban expansion accompanied by rapid population growth - keeping the LCs barely able to keep pace with adequate service coverage.

The massive influx of IDPs seeking safe areas and shelters had to a large extent aggravated the burden of the LCs to adequately comply with humanitarian aid efforts. However, the unresolved crisis situation in Hodeidah and other hot areas has kept large segment of people who have displaced to Sana'a and Ibb to resettle for an indefinite term, exacerbating the potentials of these LCs to augment the water service domain and connections to keep pace with the prevailing population growth and IDPs. Taiz LC has reported 76% of coverage claiming to serve additional households surrounding the water sources and vast areas equipped with water distribution points for humanitarian purposes. In this quarter, Aden LC was able to maintain 86% of service coverage as a logical consequence of financial support by the government and others to improve public services.

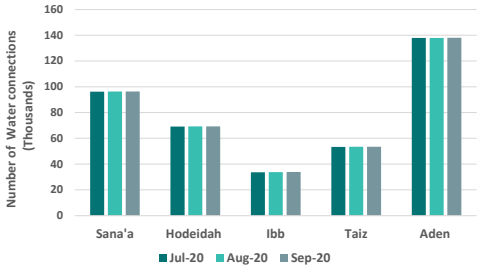
1. Total population in service area (capita)[1]



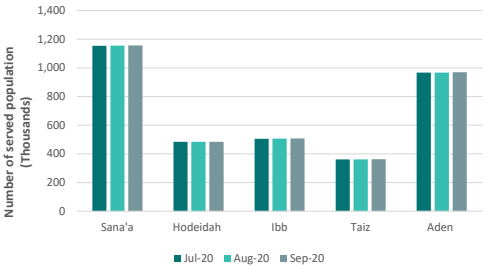
2. Number of IDPs in service area (capita)[2]



3. Number of water connections (No.)



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



5. Water supply service coverage = population served through water supply network vs total population in service area e (%)

1. The LCs do not have a reliable monthly population growth rate projection and were therefore estimated on the basis of an average of 2.5% of annual growth rate.
2. Source: WASH Cluster Response Coverage Jan-Dec 2020 (except IDPs data in Ibb is provided by the LC).

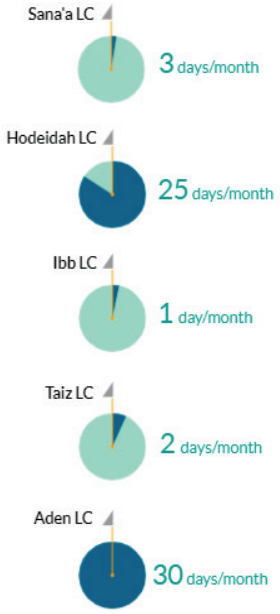
Number of service days of piped water supply

The scarcity of water resources in Sana'a, Taiz and Ibb has kept the supply of water susceptible to poorly fulfill the pressing demands of the served customers. Sana'a LC, hereby, has a lower water supply frequency maintained on average by approximately 3 times a month. The shortage of water supply in Sana'a city could be due to the low volume of water production compared to Aden and Hodeidah with average supply 30 and 25 days consecutively per month. As a consequence of the massive drop in the water level of wells, Ibb LC has been struggling to optimize water sources despite the significant interruption in the water supply with an average of one day per month across all areas served by the LC. Similar to the previous results this year, no signs of improvement were observed in water supply frequency by Taiz LC serving only twice a month on average.

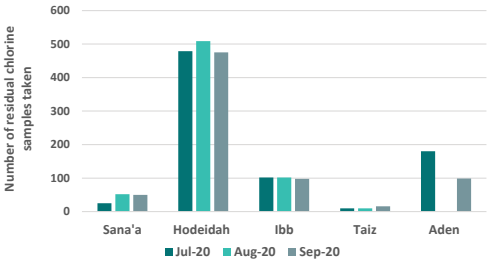
Customers served by intermittent systems are generally not satisfied with the amount of water they receive. Consequently, they try to maximize the amount they draw from the system during supply periods. The amount customers are able to collect depends on their localized pressure conditions. This puts those who are located far away from the main pipelines or at higher altitudes in the service area at a disadvantage. Customers collect and store water when the supply is on to meet their demand through the off-hours. When the supply cycle is short, the majority of customers pursue to draw their entire water demand within this very short period. This results in larger than expected flows in the pipes, causing high pressure losses, which result in low pressures at customers' end connections.

In order to respond as best they can to satisfy their needs. Customers incur a range of so-called coping costs to deal with interrupting water supply. These costs can relate to the purchase of facilities such as additional tanks to store water, domestic pumps because of low pressures, or the need to purchase alternative water supplies (e.g. private sector). Since the poorest customers can least afford such facilities, they are likely to be disproportionately affected by poor access to the public network.

6. Number of service days of piped water supply per month (day/month)



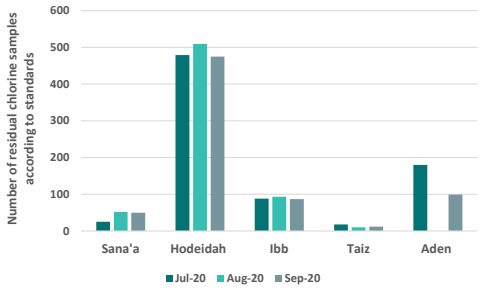
7. Number of residual chlorine samples taken (No./month)



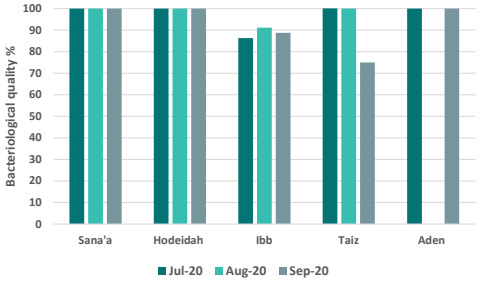
Bacteriological quality samples of distributed water

Alongside the obvious implications for water quantity, it brings concerns about water quality. In particular, interruption of water supply leads to zero pressure during non-supply periods, allowing contaminants to enter through broken or cracked pipes. These contaminants, which are in close proximity to the water network – are the result of poor or inadequate sanitation and drainage, raising the prospect of contamination. Hence, the water supply sourced by the LCs has been addressed as a suspicious causality of water-borne diseases if not treated, and the LCs were urged as preventive measures to carry our regular chlorination and tests for residual chlorine in the network to meet the required standards. Accordingly, LCs of Sana'a, Hodeidah, Ibb and Aden have shown compliance with bacteriological quality standards above 90% but remain doubtful unless the specific procedures and availability of measuring equipment and resources are verified. As for Taiz LC, the water quality treatment facilities (Labs & equipment) were entirely demolished during the armed clashes in the city. Alternatively, the LC has managed to conduct water sample tests either in the labs owned by the National Authority of Water Resources (NWRA Taiz branch) or in Ibb LC.

8. Number of residual chlorine samples according to standards (No./month)



9. Proportion of bacteriological quality samples of distributed water according to standards = Number of residual chlorine samples according to standards per total number of samples taken %



b. Service Coverage and Quality - Sewerage

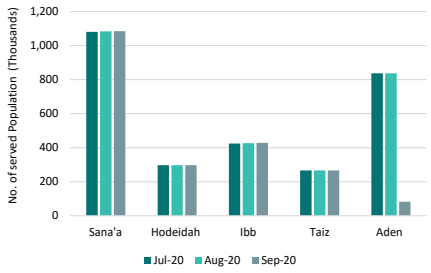
Most of the reported LCs have conventional sewer systems where about 38% of the population are served by the sewer networks. The remaining population discards their wastewater in privately owned cesspits where wastewaters are filtered and absorbed by the soil or pumped out with vacuum trucks either by the LC or by the private sector, given also that the concerned local authorities do not maintain any records of the properties with on-site sanitation.

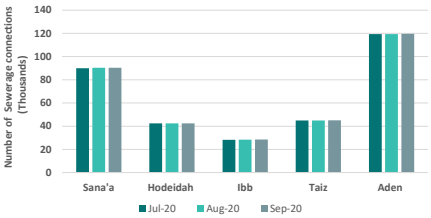
In this quarter, most LCs are lagging behind adequate sewerage coverage in view of high urbanization rates, lack of investment for sewer networks expansion and infrastructure rehabilitation, etc. All are representing critical factors that constraints the LCs to effectively collect, treat, dispose and/or reuse of wastewater. It is also evident that the amount of sewage that is collected by some Wastewater Treatment Plans 'WWTPs' is higher and beyond the design capacity; therefore, WWTPs failures effectively mean that sewage effluent is being discharged without proper treatment into open areas, waterways, and onto irrigation areas, constituting obvious health risks to residents and huge affected areas.

The surrounding poor conditions of insufficient power supply, lack of maintenance and the high volume of wastewater flows that have exceeded the capacity of the WWTPs have imposed poor quality of wastewater treatment to comply with the national standards. However, this report depended on the BOD_5 (a measure of organic pollution) of wastewater since the majority of the WWTPs' laboratories are either not equipped or dysfunctional to measure all test parameters. Additionally, the increase in BOD_5 concentrations could also be attributed to water scarcity and low production and supply frequency.

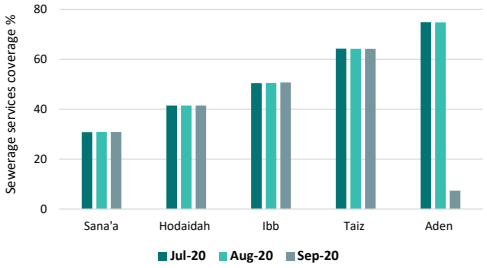
To demonstrate the wastewater treatment efficiency of the WWTPs by means of BOD_5. The treatment efficiency of effluent by Sana'a WWTP is 70% on average and the BOD_5 samples according to standards is 0%. The BOD_5 concentrations in the incoming wastewater are higher (1,150 mg/l average) than the BOD_5 design load (500 mg/l). The average treatment efficiency of effluent by WWTPs of Hodeidah and Ibb is 83% and the BOD_5 samples according to standards is 100% and 90% respectively. As for the WWTPs of Aden and Taiz, there have long been no tests for BOD_5 since the laboratories are damaged and out of operation, lacking the requisite equipment and materials; both appealing likewise for prompt and expanded assistance for the WWTPs facilities restoration.

10. Number of population served with sewerage connections (capita)

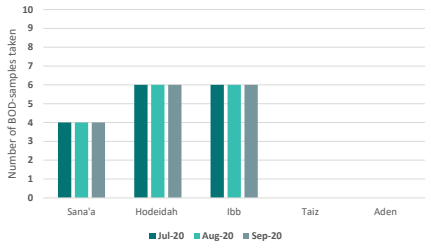




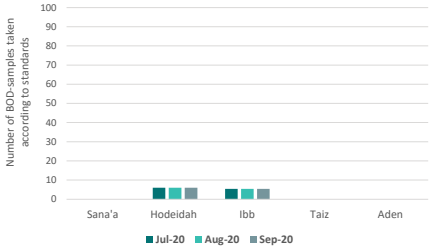
12. Sewerage connection coverage = population served through sewerage network vs total population in service area %



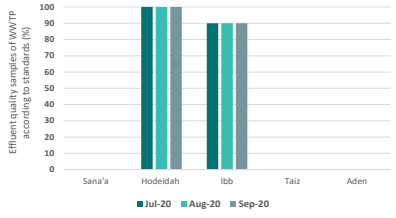
13. Number of BOD-samples of effluent of WWTP taken per month (No./month)



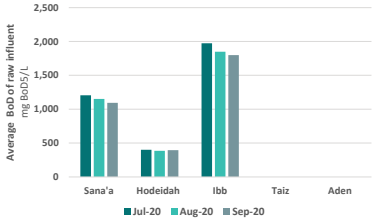
14. Number of BOD-samples of effluent of WWTP according to standards per month (No./month)



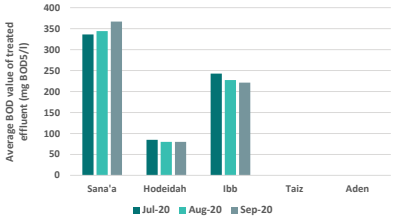
15. Proportion of effluent quality samples of wastewater treatment plants according to standards %



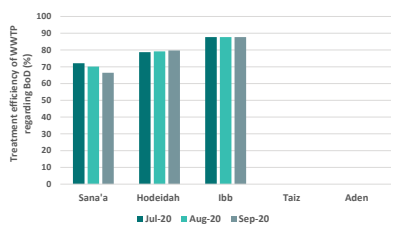
16. Average BOD value of raw influent at WWTP (mg BOD_5/l)



17. Average BOD value of treated effluent at WWTP (mg BOD_5/l)



18. Treatment efficiency of WWTP regarding BOD_5 (%)



c. Production and Consumption

The storage capacity shares per capita by the LCs of Sana'a, Hodeidah, Ibb, Taiz and Aden are respectively 32, 52, 8, 87 and 98 l/capita. In this regard, the LCs must plan for extending the storage facilities to secure storage and production capacity, frequent demand for water supply and to respond effectively to urgent circumstances.

Average daily per capita of water production varies significantly among the LCs. For instance, LCs of Aden and Hodeidah have posted the highest average share at 99 and 73 l/c/d respectively. Whereas other LCs have quite low water production values per capita reaching an average of 29 l/c/d, as is the case in Sana'a LC, 29 l/c/d in Ibb LC, and 7 l/c/d in Taiz LC. These results may undoubtedly be considered due to lack in the local water resources, inadequate operating and production capabilities.

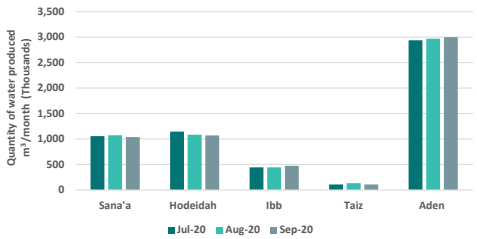
Energy costs per m³ water produced

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 addition, strong interactions with the energy system lie not only in the inherent need for energy for water pumping and wastewater treatment but even more so with important implications for operational costs.

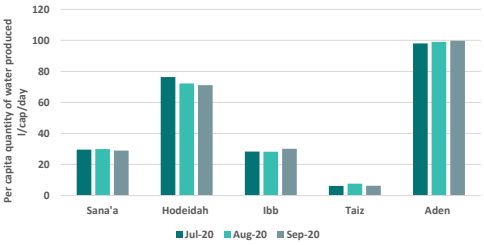
For a thorough assessment of financial performance, the analysis of the energy costs (diesel and electricity) in this report was based on distinguishing the actual costs incurred by the LCs from those subsidized by the Humanitarian Organizations. The LCs were, therefore, requested to split and report their energy costs accounts without computing the costs of subsidized fuel as operating costs. For instance, energy costs account for 0% of the total operating costs in LCs of Taiz and Hodeidah LCs, since fuel is regularly supplied on a monthly basis and paid via the UNICEF, exempting these LCs from massive burdens of running costs and preserving their performance to meet other financial obligations. Unfortunately, fuel subsidies provided to Sana'a LC by UNICEF has been reduced to 75%, forcing the LC to self-supply 304,360 liters of diesel during this quarter.

Though Ibb LC is one of the recipients of external fuel subsidies albeit on an intermittent basis, it remains largely self-reliant in obtaining fuel to fulfil the needs of power generation with an average cost 226 YER/m³. In this quarter, Aden LC reimbursed altogether the costs of the public electricity and fuel at an average price of 72 YER/m³.

19. Total quantity of water produced (m³/ month)[3]

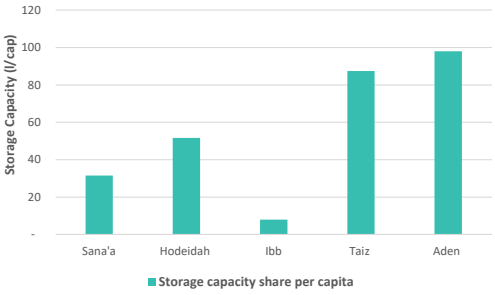


20. Per capita quantity of water produced (l/cap/day)[4]

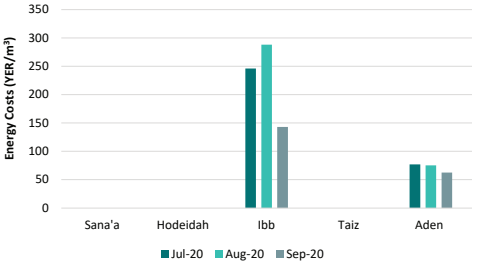


21. Storage capacity m³

22. Storage capacity share per capita (l/cap)



23. Energy costs per m³ water produced (YER/m³)[5]



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.
5. 1 Euro € ≈ 690 YER
1 US $ ≈ 580 YER (September, 2020)
Source: InfoEuro (http://ec.europa.eu/budget/graphs/inforeuro.html)

Effluent treated in the WWTPS

The treatment efficiency of generated effluent varies among the LCs and depends on the WWTPs types and various stages of treatment for processing wastewater before disposal. Additionally, the available figures regarding the inflowing wastewater were estimated by the LCs since all the installed flow meters are either damaged or dysfunctional.

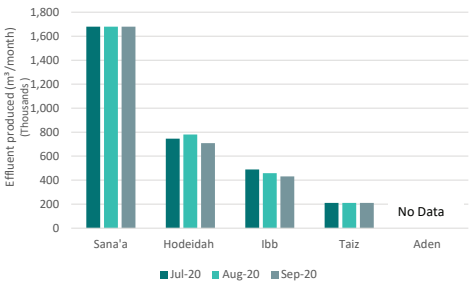
In this quarter, Sana'a WWTP has processed effluent on average 1,680,000 m^3/month (52 l/cap/day), which constitutes almost 100% of the produced effluent. The design capacity (17,000 m^3/day) of Taiz WWTP is underutilized, and currently receiving only on an average estimation of inflow 7000 m^3/day representing only 40% of the nominal capacity of the treatment plant. This explains the implications of many attacks by the farmers drilling holes in manholes and the main transmission line in order to install pumps to use wastewater for agriculture crops and irrigation.

The average treatment of effluent by Hodeidah WWTP is 100% (81 l/cap/day), finding its way into the sea waters. The existing capacity of Ibb WWTP is 5,300 m^3/day of sewage collection with average effluent generation 15,300 m^3/day, presenting 65% overload of the plant. The WWTP lab of Aden LC was damaged as referred to the armed conflict in 2015, causing entire termination of regular measurement of treated wastewater and quality. Anyhow, mapping of existing WWTP operations and particular processes is crucial to outline the current performance and to identify the appropriate rehabilitation measures.

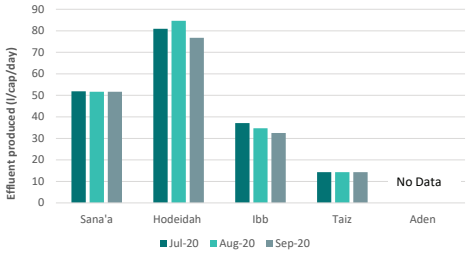
Treatement systems and capacity of the WWTPs

	WWTP	No. of WWTP	Nominal WWTP capacity m^3/day	Effluent produced m^3/day (Q3 2020)	Treatment system
1	Sana'a WWTP	2	50,500	56,000	Activated sludge
2	Ibb WWTP	1	5,300	15,322	Activated sludge
3	Hodeidah WWTP	1	54,000	24,820	Stabilization pond
4	Taiz WWTP	1	17,000	7,000	Oxidation pond
5	Aden WWTP	3	110,000	NA	Stabilization pond

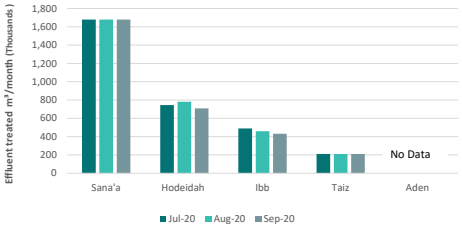
24. Effluent produced (m^3/month)



25. Effluent produced (l/cap/day)



26. Effluent treated in wastewater treatment plant (m^3/month)



d. Performance of pumps and generators

Most LCs have attempted with external fuel subsidies to overcome the power shortage by deploying additional electric generators to maintain the water supply. At the same time, full dependence on standby power has taxed excessive operating expenses beyond the LCs' financial capabilities. However, the solar water pumping system was a paradigm shift, introduced effectively in some areas to relieve stressful operational costs despite raising arguments about the future implications of renewable energy use on the local water resources.

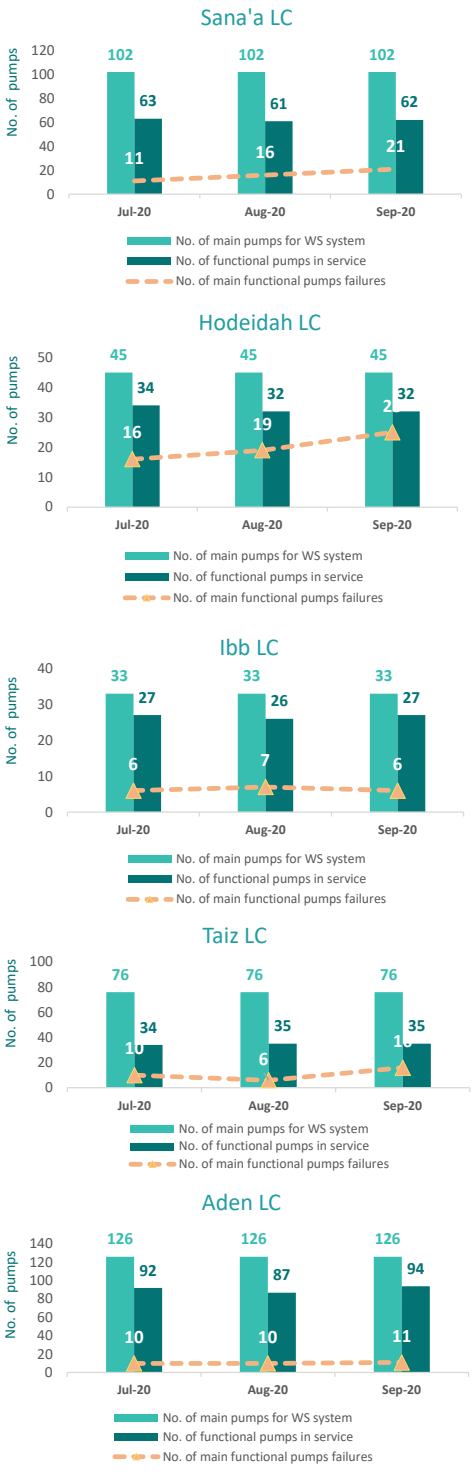
Generally, LC Sana'a has been supported, in addition to electric generators, with solar water pumping systems to reduce power failures and maintain operation of 61% of the main pumps with average 16 damage cases. Similarly, Hodeidah LC has managed to operate up to 33 of functional pumps in service, with remarkable recurrence of failures records.

In an attempt to cope with the water resource scarcity, Ibb LC was able to run 27 of the main pumps, while Taiz LC was barely efficient to enhance water production for 7 hours per day by running only 46% of the main pumps, owing to the security situation and limited availability of fuel to switch on the electric generators. Compared to other LCs, Aden LC operated about 91 of the 126 water pumps for water production on average 19 hours a day.

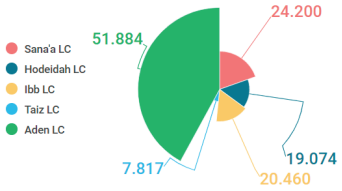
27.Total number of main pumps for the water supply system (No.)[6]

28. Number of functional water pumps in service (No.)

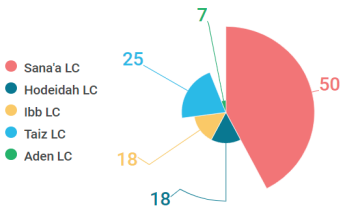
29. Number of main functional pump failures due to technical reasons (No./month)



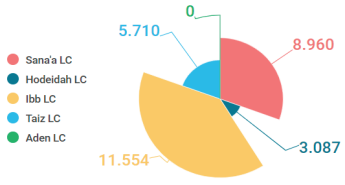
30. Number of working hours of all operating pumps of the water supply system (h/month))



31. Number of working generators in the operation of pumps (No.)



32. Number of working hours of all operating generators used to run the functional pumps of the water supply system (h/month)



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

e. Financial Viability

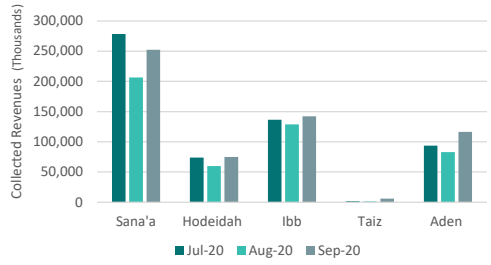
The financial viability varies significantly among the LCs due to differences in operating contexts, some of them do not reach cost recovery as a result of inadequate services or low tariffs. This becomes more challenging when coupled with a decline in revenue collection rates, causing an increase in receivables from customers and thus a shortage of liquidity.

As a result of ongoing efforts to improve their financial resources, service charges were effectively billed by Sana'a LC since the beginning of 2018. In addition, with the support of GIZ Water Program, Sana'a LC has employed the on-site 'Personal Digital Assistants (PDAs)' devices as an innovative approach to improve the quality of billing collection from the customers who ultimately realized the affordable costs of services obtained compared with the private water market. However, the upward patterns in financial recovery for Sana'a LC were attributed to collection efficiency improvement by 72%, seeming proportionate to cover operating costs (including fuel) as averaged in this quarter by 93%. Ibb LC was capable to improve monthly collection efficiency to 85% along with a remarkable recovery in cost coverage indeed by 86% on average. Given that LC of Hodeidah is exerting efforts to enhance their financial standing against the acceptable level of service provided to their customers, they had reported a marginal improvement in comparison with Q2nd quarter 2020 both in collection efficiency and cost coverage.

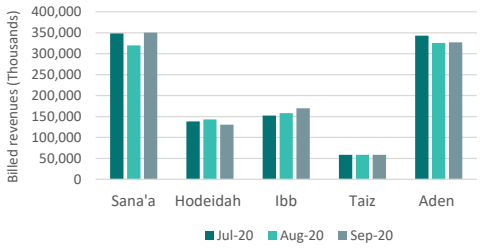
As the case for Taiz LC, they did not rely on water sales and revenues to cover the operating expenses owing to the fact that energy and wages are largely subsidized. In contrast, the recurring scenario of poor collection efficiency (5%) explicitly demonstrates stagnant management of customers relationship and billing activities. Such circumstances dictate the crucial mobilization of support for Taiz LC to restore resilience and resume business processes, inter alia, effective billing and financial management.

Though LC of Aden is striving to enhance the financial situation against the acceptable level of service provided to their customers. Poor customer management is the main culprit behind low collection efficiency 29% and operating costs coverage 14% in this quarter. For important considerations, the LC must gradually attempt to recover the state of underperformance and pursue to robust their financial footage to align with unexpected future tragedies such as discontinuity of external support

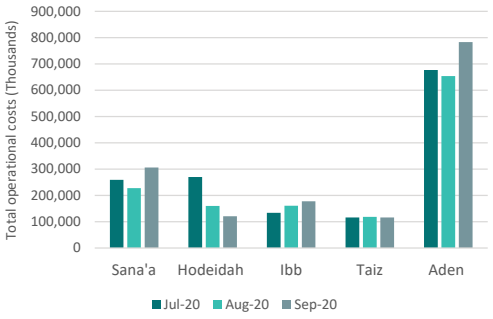
33. Total collected operational revenues (YER/month)[7]



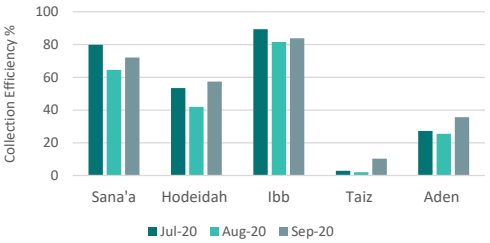
34. Total billed operational revenues (YER/month)



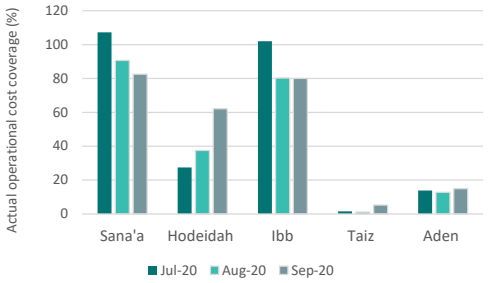
35. Total operational costs (YER/month)



36. Collection efficiency = Collected revenues vs. Billed revenues (%)



37. Actual operational cost coverage (%)

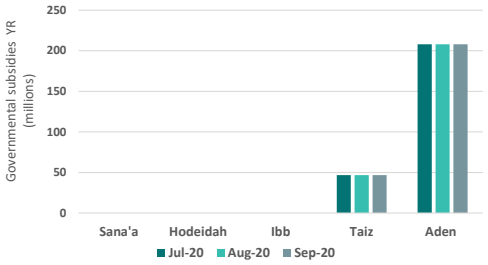


7. Revenues including domestic, commercial & governmental collection

Monthly governmental subsidies

Given the fact that investment support from the government has dropped dramatically Given the fact that investment support from the government has dropped dramatically since 2015 due to deteriorating economic and financial conditions. In exclusive form, the LCs of Aden and Taiz were among fewer public institutions regularly receiving monthly allocations in kind of financial subsidies from the Ministry of Finance in Aden to pay staff salaries and other operating expenses, while other LCs depend merely on water sales.

38. Monthly governmental subsidies (YER/month)

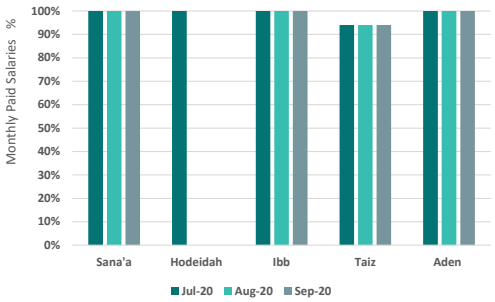


Percentage of basic monthly salaries paid

The eventual impact of external support and subsidies has gradually empowered the LCs in managing the salary expenses of employees. 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.

Though most of the LCs were capable of paying 100% of the base salaries in this quarter (except May and June in Hodeidah LC), they are frequently in profound distress and vulnerable to secure the salaries and other heavy entitlements under volatile conditions and unpredictable continuity of external assistance.

39. Percentage of basic monthly salaries paid (%)



5 Resilience factors[8]

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.

8. 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 1 Resilience Emergency Indicators Sheet July -September 2020

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-20	Feb-20	Mar-20	April-20	May-20	June-20	July-20	Aug -20	Sept -20
1	عدد السكان في المراكز الحضرية المخدومة من قبل مزود الخدمة (شهري في نهاية الشهر) Total population in service area	Sana'a	Cap	3,485,825	3,489,311	3,492,801	3,496,293	3,499,790	3,503,289	3,506,793	3,510,300	3,513,810
		Hodeidah		711,283	711,994	712,706	713,419	714,132	714,846	715,561	716,277	716,993
		Ibb		836,670	837,507	838,344	839,183	840,022	840,862	841,703	842,544	843,387
		Taiz		730,360	731,090	731,821	732,553	733,285	734,019	734,753	735,488	736,223
		Aden		1,111,019	1,112,130	1,113,242	1,114,355	1,115,469	1,116,585	1,117,701	1,118,819	1,119,938
2	عدد النازحين الى مناطق امتياز مزود الخدمة (شهري في نهاية الشهر) Number of IDPs in the service area	Sana'a	Cap	431,896	431,896	431,896	431,896	431,896	431,896	431,896	431,896	431,896
		Hodeidah		22,536	22,536	22,536	22,536	22,536	22,536	22,536	22,536	22,536
		Ibb		257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500	257,500
		Taiz		115,678	115,678	115,678	115,678	115,678	115,678	115,678	115,678	115,678
		Aden		75,827	75,827	75,827	75,827	75,827	75,827	75,827	75,827	75,827
3	إجمالي عدد توصيلات المياه فى نهاية الشهر - يشمل المنزلي، التجاري، والحكومي وغيره Number of water connections	Sana'a	No.	95,443	95,570	95,748	95,955	96,053	96,055	96,200	96,286	96,375
		Hodeidah		68,862	68,895	68,926	69,007	69,051	69,091	69,158	69,203	69,245
		Ibb		33,227	33,313	33,374	33,399	33,415	33,543	33,649	33,734	33,861
		Taiz		53,171	53,203	53,268	53,275	53,299	53,361	53,389	53,412	53,465
		Aden		136,891	137,374	137,625	137,967	137,967	137,967	137,967	137,967	138,107
4	عدد السكان المخدومين بالمياه من قبل مزود الخدمة (شهري في نهاية الشهر) Number of population served through water supply network	Sana'a	Cap	1,145,316	1,146,840	1,148,976	1,151,460	1,152,636	1,152,660	1,154,400	1,155,432	1,156,500
		Hodeidah		482,034	482,265	482,482	483,049	483,357	483,637	484,106	484,421	484,715
		Ibb		498,405	499,695	500,610	500,985	501,225	503,145	504,735	506,010	507,915
		Taiz		359,189	359,872	359,945	360,197	360,848	361,142	361,384	361,940	362,276
		Aden		958,237	961,618	963,375	965,769	965,769	965,769	966,749	966,917	969,612
5	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 in service area	Sana'a	%	33	33	33	33	33	33	33	33	33
		Hodaidah		68	68	68	68	68	68	68	68	68
		Ibb		60	60	60	60	60	60	60	60	60
		Taiz		76	76	76	76	76	76	76	76	76
		Aden		86	86	87	87	87	86	86	86	87
6	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	2.5	2.5	2.5	3	3	3	3	3	3
		Hodeidah		25	25	25	25	25	25	25	25	25
		Ibb		1	1	1	1	1	1	1	1	2
		Taiz		1	1	1	1	1	1	2	2	2
		Aden		30	30	30	30	30	30	30	30	30
7	إجمالي عدد عينات الكلور المأخوذة من شبكة المياة خلال الشهر Number of residual chlorine samples taken	Sana'a	No./ month	62	64	42	37	40	50	25	52	50
		Hodeidah		846	789	853	836	836	786	479	509	475
		Ibb		118	112	120	96	86	72	102	102	98
		Taiz		12	10	16	18	13	20	10	10	16
		Aden		72	74	175	120	93	96	180	–	99
8	إجمالي عدد عينات الكلور الإيجابية المأخوذة من شبكة المياه والتي تتوافق مع المعايير Number of residual chlorine samples according to standards	Sana'a	No./ month	62	64	42	37	40	50	25	52	50
		Hodeidah		846	789	853	836	836	786	479	509	475
		Ibb		103	105	100	88	75	60	88	93	87
		Taiz		12	10	16	13	15	15	18	10	12
		Aden		72	74	175	120	93	96	180	–	99
9	درجة نقاوة المياة المزودة بكتورولوجيا Proportion of bacteriological quality samples of distributed water according to standards = Number of residual chlorine samples according to standards per total number of samples taken	Sana'a	%	100	100	100	100	100	100	100	100	100
		Hodeidah		100	100	100	100	100	100	100	100	100
		Ibb		87	94	83	92	87	83	86	91	89
		Taiz		100	100	100	72	115	75	180	100	75
		Aden		100	100	100	100	100	100	100	–	100

No.	Data / Indicator	City	Unit	1st Q			2nd Q			3rd Q		
				Jan-20	Feb-20	Mar-20	April-20	May-20	June-20	July-20	Aug -20	Sept -20
10	عدد السكان المخدومين بشبكات الصرف الصحى من قبل مزود الخدمة (شهري في نهاية الشهر) Number of population served with sewerage connections	Sana'a	Cap	1,070,976	1,072,428	1,074,564	1,076,928	1,077,912	1,078,500	1,079,964	1,083,312	1,084,236
		Hodeidah		296,233	296,352	296,450	296,709	296,821	299,019	297,101	297,290	297,472
		Ibb		418,455	419,535	420,465	421,200	421,410	423,255	424,755	426,045	427,965
		Taiz		265,144	265,406	265,648	265,700	265,931	266,141	266,152	266,225	266,257
		Aden		830620	832762	834057	835695	835695	835702	836,850	836,990	82,971
11	إجمالي عدد توصيلات الصرف الصحي - يشمل المنزلي، التجاري، والحكومي وغيره Number of sewerage connections	Sana'a	No.	89,248	89,369	89,547	89,744	89,826	89,875	89,997	90,276	90,353
		Hodeidah		42,319	42,336	42,350	42,387	42,403	42,717	42,443	42,470	42,496
		Ibb		27,897	27,969	28,031	28,080	28,094	28,217	28,317	28,403	28,531
		Taiz		44,912	44,935	44,940	44,962	44,982	44,983	44,990	44,993	45,042
		Aden		118,660	118,966	119,151	119,385	119,385	119,385	119,385	119,386	119,550
12	نسبة عدد السكان المخدومين بشبكات الصرف الصحى من قبل مزود الخدمة (شهري في نهاية الشهر) Sewerage connection coverage	Sana'a	%	31	31	31	31	31	31	31	31	31
		Hodeidah		42	42	42	42	42	42	42	42	41
		Ibb		50	50	50	50	50	50	50	51	51
		Taiz		65	65	64	64	64	64	64	64	64
		Aden		75	75	75	75	75	75	75	75	7
13	عدد عينات الـ (بي أو دي) المجمعة من محطات المعالجة خلال الشهر Number of BOD-samples of effluent of WWTP taken per month	Sana'a	No.	6	5	4	4	4	5	4	4	4
		Hodeidah		2	–	2	6	6	6	6	6	6
		Ibb		5	6	6	6	6	6	6	6	6
		Taiz		–	–	–	–	–	–	–	–	–
		Aden		–	–	–	–	–	–	–	–	–
14	عدد عينات الـ (بي أو دي) المجمعة من محطات المعالجة المطابقة لمعيار التدفق خلال الشهر Number of BOD-samples of effluent of WWTP according to standards per month	Sana'a	No.	0	0	0	0	0	0	0	0	0
		Hodeidah		2	–	2	6	6	6	6	6	6
		Ibb		4	5	5	5	5	5	5	5	5
		Taiz		–	–	–	–	–	–	–	–	–
		Aden		–	–	–	–	–	–	–	–	–
15	كفاءة المعالجة في محطات معالجة الصرف الصحي Proportion of effluent quality samples of wastewater treatment plants according to standards = Number of BOD samples according to standards per total number of samples taken	Sana'a	%	0	0	0	0	0	0	0	0	0
		Hodeidah		100	–	100	100	100	100	100	100	100
		Ibb		89	75	75	91	91	91	90	90	90
		Taiz		–	–	–	–	–	–	–	–	–
		Aden		–	–	–	–	–	–	–	–	–
16	متوسط قيمة ال (بي أو دي) للمياه المتدفقة (الخام) الى محطة معالجة مياه الصرف الصحي Average BOD value of raw influent at WWTP	Sana'a	mg BOD_5/L	1,520	1,292	1,268	1,340	1,328	1,320	1,205	1,152	1,094
		Hodeidah		535	–	450	362	420	540	400	385	395
		Ibb		2,085	2,180	2,099	2,084	1,981	1,836	1,973	1,848	1,798
		Taiz		–	–	–	–	–	–	–	–	–
		Aden		–	–	–	–	–	–	–	–	–
17	متوسط قيمة ال (بي أو دي) من المياه المعالجة (الخارجة) من محطة معالجة مياه الصرف الصحي Average BOD value of treated effluent at WWTP	Sana'a	mg BOD_5/L	611	345	330	337	356	342	336	344	367
		Hodeidah		81	–	84	207	95	90	85	80	80
		Ibb		225	235	226	224	213	226	243	227	221
		Taiz		–	–	–	–	–	–	–	–	–
		Aden		–	–	–	–	–	–	–	–	–
18	كفاءة المعالجة لمحطة مياه الصرف الصحي فيما يخص ال (بي أو دي) Treatment efficiency of WWTP regarding BOD	Sana'a	%	60	73	74	75	73	74	72	70	66
		Hodeidah		85	–	81	43	77	83	79	79	80
		Ibb		89	89	89	89	89	88	88	88	88
		Taiz		–	–	–	–	–	–	–	–	–
		Aden		–	–	–	–	–	–	–	–	–

No.	Data / Indicator	City	Unit	1st Q			2nd Q			3rd Q		
				Jan-20	Feb-20	Mar-20	April-20	May-20	June-20	July-20	Aug -20	Sept -20
19	إجمالي كمية المياه المنتجة	Sana'a	m^3/ month	1,098,936	1,051,786	1,193,185	1,216,162	1,128,250	1,165,038	1,056,549	1,073,258	1,037,057
		Hodeidah		1,189,959	1,094,403	1,122,242	1,110,556	1,198,930	1,168,189	1,145,570	1,084,850	1,069,302
		Ibb		422,809	410,000	398,793	419,461	442,481	392,322	442,683	442,994	473,744
	Total quantity of water produced	Taiz		142,791	139,474	152,634	151,655	133,979	119,408	107,160	131,829	108,199
		Aden		3,267,100	3,253,328	3,267,100	3,253,328	3,376,256	3,314,826	2,939,571	2,969,485	3,000,170
20	نصيب الفرد من المياه المنتجة	Sana'a	l/cap/ day	31	30	33	34	32	33	30	30	29
		Hodeidah		80	73	75	74	80	78	76	72	71
		Ibb		27	26	26	27	28	25	28	28	30
	Per capita quantity of water produced	Taiz		8	8	9	9	8	7	6	8	6
		Aden		110	109	109	109	113	111	98	99	100
21	الطاقة التخزينية الشهرية المتاحة	Sana'a	m^3	36,450	36,450	36,450	36,450	36,450	36,450	36,450	36,450	36,550
		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
	Storage capacity	Taiz		49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000	49,000
		Aden		94,700	94,700	94,700	94,700	94,700	94,700	94,700	94,700	94,700
22	نصيب الفرد من الطاقة التخزينية المتاحة	Sana'a	l/cap	32	32	32	32	32	32	32	32	32
		Hodaidah		52	52	52	52	52	52	52	52	52
		Ibb		8	8	8	8	8	8	8	8	8
	Storage capacity share per capita	Taiz		88	88	88	88	88	87	87	87	87
		Aden		99	98	98	98	98	98	98	98	98
23	تكلفة الطاقة لكل متر مكعب منتج من المياه خلال الشهر	Sana'a	YER/m^3	0	0	0	0	0	0	0	0	0
		Hodaidah		0	0	0	0	0	0	0	0	0
		Ibb		300	334	376	344	366	291	246	288	143
	Energy costs per m^3 water produced	Taiz		0	0	0	0	0	0	0	0	0
		Aden		68	66	62	72	72	67	77	75	62
24	كمية المياه المنتجة - المعالجة أو غير المعالجة - التي تتدفق من محطة معالجة الصرف الصحي	Sana'a	m^3/ month	1,488,000	1,392,000	1,488,000	1,680,000	1,680,000	1,680,000	1,680,000	1,680,000	1,680,000
		Hodeidah		684,250	747,150	781,150	799,000	892,500	746,300	745,450	780,300	708,050
		Ibb		452,435	442,483	455,433	437,663	429,835	440,591	489,184	458,396	431,436
	Effluent produced	Taiz		210,000	210,000	210,000	210,000	210,000	210,000	210,000	210,000	210,000
		Aden		–	–	–	–	–	–	–	–	–
25	كمية المياه المنتجة - المعالجة أو غير المعالجة - التي تتدفق من محطة معالجة الصرف الصحي	Sana'a	l/cap/ day	46	43	46	52	52	52	52	52	52
		Hodeidah		75	81	85	87	97	81	81	85	77
		Ibb		35	34	35	34	33	34	37	35	33
	Effluent produced	Taiz		14	14	14	14	14	14	14	14	14
		Aden		–	–	–	–	–	–	–	–	–
26	كمية مياه الصرف الصحي المعالجة التي تتدفق من محطة المعالجة	Sana'a	m^3/ month	1,488,000	1,392,000	1,488,000	1,680,000	1,680,000	1,680,000	1,680,000	1,680,000	1,680,000
		Hodeidah		684,250	747,150	781,150	799,000	892,500	746,300	745,450	780,300	708,050
		Ibb		452,435	442,483	455,433	437,663	429,835	440,591	489,184	458,396	431,436
	Effluent treated in wastewater treatment plant	Taiz		210,000	210,000	210,000	210,000	210,000	210,000	210,000	210,000	210,000
		Aden		–	–	–	–	–	–	–	–	–
27	إجمالي عدد المضخات الرئيسية	Sana'a	No.	102	102	102	102	102	102	102	102	102
		Hodeidah		45	45	45	45	45	45	45	45	45
		Ibb		31	32	32	33	33	33	33	33	33
	Total number of main pumps for the water supply system	Taiz		76	76	76	76	76	76	76	76	76
		Aden		126	126	126	126	126	126	126	126	126

No.	Data / Indicator	City	Unit	1st Q			2nd Q			3rd Q		
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28	عدد المضخات الرئيسية العاملة والتي تضخ المياه خلال الشهر Number of functional pumps in service	Sana'a	No/month.	61	64	67	65	65	64	63	61	62
		Hodeidah		35	34	33	34	35	34	34	32	32
		Ibb		27	28	27	28	28	28	27	26	27
		Taiz		36	36	38	35	35	34	34	35	35
		Aden		96	98	97	94	91	93	92	87	94
29	عدد ساعات عمل (تشغيل) المضخات (كل المضخات العاملة والتي تضخ المياه) في الشهر Number of working hours of all operating pumps of the water supply system	Sana'a	h/month	25,865	25,038	28,991	28,415	26,237	27,296	24,200	25,300	22,845
		Hodeidah		19,896	18,687	20,522	18,938	22,368	19,898	19,685	19,074	18,626
		Ibb		18,414	17,248	18,414	17,820	18,414	14,580	21,142	19,778	20,460
		Taiz		10,522	10,227	11,042	10,756	9,918	8,082	7,817	9,201	6,809
		Aden		56,072	55,192	56,882	54,971	54,411	54,056	51,385	51,884	52,688
30	عدد الأعطال الناتجة عن أسباب فنية خلال الشهر للمضخات الرئيسية العاملة في ضخ المياه Number of main functional pumps failures due to technical reasons	Sana'a	No./month	4	21	26	23	23	31	11	16	21
		Hodaidah		15	17	20	20	14	17	16	19	25
		Ibb		4	4	5	5	5	5	6	7	6
		Taiz		5	12	7	9	12	14	10	6	16
		Aden		5	4	3	7	9	8	10	10	11
31	عدد المولدات العاملة في تشغيل المضخات Number of working generators in the operation of pumps	Sana'a	No.	52	54	59	56	56	51	52	46	52
		Hodaidah		17	18	18	17	18	18	18	18	18
		Ibb		17	18	18	19	19	19	18	18	18
		Taiz		31	32	29	25	25	24	24	26	26
		Aden		7	7	7	7	7	7	7	7	7
32	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 of the water supply system	Sana'a	h/month	10,051	10,776	12,560	11,966	9,937	11,097	7,790	8,233	10,859
		Hodeidah		3,953	3,232	4,096	3,834	3,467	3,026	3,403	2,602	3,257
		Ibb		11,594	11,088	12,276	11,970	12,369	11,970	11,880	11,532	11,250
		Taiz		7,755	7,956	7,758	7,328	6,829	5,238	4,973	6,011	6,147
		Aden		–	–	–	–	–	–	–	–	–
33	قيمة الإيرادات الشهرية المحصلة Total collected operational revenues	Sana'a	YER/ month	250,525,158	279,778,052	271,855,470	263,425,357	214,755,532	247,312,221	278,339,254	206,410,356	252,448,432
		Hodeidah		62,685,786	68,265,317	72,544,237	55,681,676	55,995,572	61,982,857	73,926,963	59,893,345	74,957,172
		Ibb		121,789,124	136,355,581	134,095,608	122,010,885	107,623,597	148,005,490	136,355,581	128,982,629	142,174,436
		Taiz		2,574,634	3,025,700	3,053,230	2,098,536	3,085,601	2,904,230	1,703,773	1,176,177	6,037,820
		Aden		149,122,423	138,997,097	140,651,059	138,997,097	140,651,059	90,664,355	93,653,864	82,964,915	116,358,622
34	قيمة الإيرادات الشهرية المفوترة (قيمة مبيعات المياه الشهرية المفوترة) Total billed operational revenues	Sana'a	YER/ month	350,044,974	315,675,128	344,062,362	333,177,437	328,546,997	350,044,974	348,412,689	319,839,753	350,208,897
		Hodeidah		136,277,298	131,477,500	127,706,007	130,868,670	132,360,379	138,003,777	134,226,267	137,035,940	137,035,940
		Ibb		151,390,035	159,664,558	144,703,575	154,462,867	158,427,464	163,138,132	152,492,745	157,942,421	169,429,605
		Taiz		58,619,550	58,619,550	58,619,550	58,619,550	58,619,550	58,619,550	58,619,550	58,619,550	58,619,550
		Aden		344,859,483	334,880,861	340,684,867	334,880,861	340,684,867	320,750,115	343,153,567	325,478,032	326,926,250
35	إجمالي التكاليف التشغيلية Total operational costs	Sana'a	YER/ month	175,302,297	204,469,708	241,500,800	199,819,066	188,711,681	224,943,074	259,337,161	227,706,158	305,826,775
		Hodeidah		160,121,432	175,285,720	179,936,960	436,169,970	247,059,519	107,846,416	269,977,754	159,864,376	120,814,445
		Ibb		165,322,725	163,496,062	170,314,523	171,908,406	184,551,952	244,932,911	133,704,768	160,604,711	177,567,005
		Taiz		127,569,040	129,078,100	130,153,720	127,443,460	127,984,420	113,769,940	116,275,240	118,324,420	115,903,960
		Aden		683,900,568	675,328,587	669,804,540	675,328,587	669,804,540	679,736,635	726,230,331	716,126,570	677,564,053
36	نسبة التحصيل Collection efficiency = Collected revenues vs. billed revenues	Sana'a	%	72	89	79	79	65	71	80	65	72
		Hodeidah		46	52	57	43	42	45	55	44	55
		Ibb		85	85	84	70	93	84	85	90	88
		Taiz		4	5	5	4	5	5	3	2	10
		Aden		43	42	41	42	41	28	27	25	36
37	التغطية التشغيلية المحصلة للكلفة Actual operational cost coverage	Sana'a	%	143	137	113	132	114	110	107	91	83
		Hodeidah		39	39	40	13	23	57	27	37	62
		Ibb		78	83	72	63	80	56	96	89	84
		Taiz		2	2	2	2	2	3	1	1	5
		Aden		22	21	21	21	21	13	14	13	15

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38	قيمة الإعانات (المعونات) الحكومية الشهرية لمزود الخدمة	Sana'a	YER/ month	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
	Monthly governmental subsidies	Taiz		46,828,589	46,828,589	46,828,589	46,828,589	46,828,589	46,828,589	46,828,589	46,828,589	46,828,589
		Aden		208,026,312	208,026,312	208,026,312	208,026,312	208,026,312	208,026,312	208,026,312	208,026,312	208,026,312
39	نسبة الرواتب الأساسية الشهرية المدفوعة للموظفين	Sana'a	%	100%	100%	100%	100%	100%	100%	100%	100%	100%
		Hodeidah		100%	100%	100%	100%	100%	100%	100%	0%	0%
		Ibb		100%	100%	100%	100%	100%	100%	100%	100%	100%
	Percentage of basic monthly salaries paid	Taiz		94%	94%	94%	94%	94%	94%	94%	94%	94%
		Aden		100%	100%	100%	100%	100%	100%	100%	100%	100%

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Published by
• Sana'a Water Local Corporation
T +967 1 250162, E swslc@y.net.ye
• Aden Water Local Corporation
T +967 2 254272-260171,2,3, E water-aden@y.net.ye
• Ibb Water Local Corporation
T +967 4 412034, E ibbwslc@gmail.com
• Hodeidah Water Local Corporation
T +967 3 204546,5-220494, E hwslc@y.net.ye
• Taiz Water Local Corporation
T +967 777209300, E twslc@yemen.net.ye

In cooperation with
Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH
Institutional Development of the Water Sector
GIZ Office
Hadda area, Str. 21
Sana'a, Yemen
T +967 1 434 429 - Ext. 404
F +967 1 412 387
E christine.werner@giz.de
W www.giz.de/yemen

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