



STAGE ONE

Yemen Water Sector

A Managerial, Financial, Human Resource, Operational Structures
Assessment of Twelve Water Corporations, and their Affiliated Utilities



Acknowledgement

This Assessment was carried out in Yemen by Staff of the Ministry of Water & Environment, Yemeni Technical Consultants, and Executive and Senior Staff in the Local Corporations involved in this study. The Stage One report was compiled and edited by GIZ Yemen Water Sector Personnel in Amman, Jordan.

We would like to give special thanks and appreciation to Mr. Tawfeeq Al Sharjabi, Deputy Minister of Water for initiating the concept of the study, and for his insights and prompt follow up. Many thanks to all General Managers of our partner LCs and GIZ focal persons who have dedicated their efforts and expertise for the finalisation of this important work which will serve best the Yemeni water sector to maintain basic service provision to the conflict affected population in Yemen.

Nadim Mulhem
Head of GIZ Yemen Water Sector Programme

Table of Contents

(i)	Acknowledgement	2
(ii)	Assessment Study Concept Paper	8
(iv)	Executive Summary	10
(v)	The Assessment Study Report	11

1. ABYAN LOCAL CORPORATION (LC)

1.1	Background	12
1.2	Abyan LC Corporate Data	13
1.2.1	LC Board of Directors (BOD)	13
1.2.2	LC Management and Staff	13
1.2.3	LC Corporate Financial, Budget and Cost Data	13
1.3	Abyan LC Structures and Buildings – Damage Status	14
1.3.1	Main Office	14
1.3.2	Pumping Station Buildings	14
1.3.3	Water Storage	14
1.4	Abyan LC Water Production and Distribution Network Data & Damage Status	14
1.4.1	Tube Wells and Well Heads	14
1.4.2	Water Distribution network	14
1.4.3	Water Supply Data	14
1.4.4	Water Meters	15
1.4.5	Non-Revenue Water (NRW)	15
1.5	Abyan LC Wastewater System Data & Damage Status	15
1.6	Abyan LC Operations and Maintenance Vehicles Damage Status	15
1.7	Abyan LC Installation and Maintenance Tools & Equipment Damage Status	15
1.8	Observations	15
1.9	Stage One Conclusions	16
1.10	Stage One Recommendations	16

2. ADEN LOCAL CORPORATION (LC)

2.1	Background	17
2.2	Aden LC Corporate Data	18
2.2.1	LC Management Board – Fundamental and Secondary Committees	18
2.2.2	LWC Management and Staff	18

2.2.3	LC Corporate Financial, Budget and Cost Data	20
2.3	Aden LC Structures and Buildings – Damage Status	20
2.3.1	Main Office	20
2.3.2	Pumping Station Buildings	20
2.3.3	Water Storage	20
2.4	Aden LC Water Production and Distribution Network Data and Damage Status	21
2.4.1	Tube Wells and Well Heads	21
2.4.2	Water Distribution Network	21
2.4.3	Water Supply Data	21
2.4.4	Water Meters	21
2.4.5	Non-Revenue Water (NRW)	21
2.5	Aden LC Wastewater System Data & Damage Status	21
2.5.1	Wastewater Ponds	21
2.5.2	Wastewater Collection Network	21
2.6	Aden LC Operations and Maintenance Vehicles Damage Status	22
2.7	Aden LC Installation and Maintenance Tools & Equipment Damage Status	22
2.8	Observations	22
2.9	Stage One Conclusion	22
2.10	Stage One Recommendations	22

3. AMRAN LOCAL CORPORATION (LC)

3.1	Background	23
3.2	Amran LC Corporate Data	24
3.2.1	LC Management Board – Fundamental and Secondary Committees	24
3.2.2	LWC Management and Staff	24
3.2.3	LC Corporate Financial, Budget and Cost Data	24
3.3	Amran LC Structures and Buildings – Damage Status	25
3.3.1	Main Office	25
3.3.2	Pumping Station Buildings	25
3.3.3	Water Storage	25
3.4	Amran LC Water Production and Distribution Network – Data and Damage Status	25

3.4.1	Tube Wells and Well Heads.....	25
3.4.2	Water Distribution Network.....	25
3.4.3	Water Supply Data.....	25
3.4.4	Water Meters.....	25
3.4.5	Non-Revenue Water (NRW).....	25
3.5	Amran LC Wastewater System Data and Damage Status.....	26
3.5.1	Wastewater Ponds.....	26
3.5.2	Wastewater Collection Network.....	26
3.6	Amran LC Operations and Maintenance Vehicles Damage Status.....	26
3.7	Amran LC Installation and Maintenance Tools & Equipment Damage Status.....	26
3.8	Observations.....	26
3.9	Stage One Conclusions.....	27
3.10	Stage One Recommendations.....	27

4. DHAMAR LOCAL CORPORATION (LC)

4.1	Background.....	28
4.2	Dhamar LC Corporate Data.....	29
4.2.1	LC Board of Directors (BOD).....	29
4.2.2	LC Management and Staff.....	29
4.2.3	LC Corporate Financial, Budget and Cost Data.....	29
4.3	Dhamar LC Structures and Buildings – Damage Status.....	31
4.3.1	Main Office.....	31
4.3.2	Pumping Station Buildings.....	31
4.3.3	Water Storage.....	31
4.4	Dhamar LC Water Production and Distribution Network – Data & Damage Status.....	31
4.4.1	Tube Wells and Well Heads.....	31
4.4.2	Water Distribution network.....	31
4.4.3	Water Supply Data.....	31
4.4.4	Water Meters.....	31
4.4.5	Non-Revenue Water (NRW).....	31
4.5	Dhamar LC Wastewater System Data & Damage Status.....	31
4.6	Dhamar LC Operations and Maintenance Vehicles – Damage Status.....	32
4.7	Dhamar LC Installation and Maintenance Tools & Equipment – Damage Status.....	32
4.8	Observations.....	32
4.9	Stage One Conclusions.....	32
4.10	Stage One Recommendations.....	32

5. HADRAMOUT (AL MUKALLA) LOCAL CORPORATION (LC) & AL SHEHR UTILITY

5.1	Background.....	33
5.2	Hadramout LC Corporate Data.....	34
5.2.1	LC Management Board – Fundamental and Secondary Committees.....	34
5.2.2	LWC Management and Staff.....	34
5.2.3	LC Corporate Financial, Budget and Cost Data.....	34
5.3	Hadramout LC Structures and Buildings – Damage Status.....	35
5.3.1	Main Office.....	35
5.3.2	Pumping Station Buildings.....	35
5.3.3	Water Storage.....	35
5.4	Hadramout LC Water Production and Distribution Network – Data and Damage Status.....	35
5.4.1	Tube Wells and Well Heads.....	35
5.4.2	Water Distribution Network.....	35
5.4.3	Water Supply Data.....	35
5.4.4	Water Meters.....	35
5.4.5	Non-Revenue Water (NRW).....	35
5.5	Hadramout LC Wastewater System Data and Damage Status.....	36
5.5.1	Wastewater Ponds.....	36
5.5.2	Wastewater Collection Network.....	36
5.6	Hadramout LC Operations and Maintenance Vehicles Damage Status.....	36
5.7	Hadramout LC Installation and Maintenance Tools & Equipment Damage Status.....	36
5.8	Observations.....	36
5.9	Stage One Conclusions.....	36
5.10	Stage One Recommendations.....	36

6. HAJJAH LOCAL CORPORATION (LC)

6.1	Background.....	37
6.2	Hajjah LC Corporate Data.....	38
6.2.1	LC Board of Directors (BOD).....	38
6.2.2	LC Management and Staff.....	38
6.2.3	LC Corporate Financial, Budget and Cost Data.....	38
6.3	Hajjah LC and Branch Office Structures and Buildings – Damage Status.....	39
6.3.1	Main Office.....	39
6.3.2	Pumping Station Buildings.....	39
6.3.3	Water Storage.....	39

6.4	Hajjah LC and Branch Office Water Production and Distribution Network – Data & Damage Status	39
6.4.1	Tube Wells and Well Heads	39
6.4.2	Water Distribution network	39
6.4.3	Water Supply Data	40
6.4.4	Water Meters	40
6.4.5	Non-Revenue Water (NRW)	40
6.5	Hajjah LC and Branch Office Wastewater System Data & Damage Status	40
6.6	Hajjah LC Operations and Maintenance Vehicles – Damage Status	40
6.7	Hajjah LC Installation and Maintenance Tools & Equipment – Damage Status	40
6.8	Observations	40
6.9	Stage One Conclusions	41
6.10	Stage One Recommendations	41

7. AL HUDAYDAH LOCAL CORPORATION (LC) AND ZABID, AL MANSOURIAH, BAJIL AND BAIT AL FAQIH UTILITIES

7.1	Background	42
7.2	Al Hudaydah LC Corporate Data	43
7.2.1	LC Board of Directors (BOD)	43
7.2.2	LC Management and Staff	43
7.2.3	LC Corporate Financial, Budget and Cost Data	43
7.3	Al Hudaydah LC Structures and Buildings – Damage Status	44
7.3.1	Main Office	44
7.3.2	Pumping Station Buildings	44
7.3.3	Water Storage	44
7.4	Al Hudaydah LC Water Production and Distribution Network Data & Damage Status	44
7.4.1	Tube Wells and Well Heads	44
7.4.2	Water Distribution network	44
7.4.3	Water Supply Data	44
7.4.4	Water Meters	44
7.4.5	Non-Revenue Water (NRW)	44
7.5	Al Hudaydah LC Wastewater System Data & Damage Status	45
7.6	Al Hudaydah LC Operations and Maintenance Vehicles Damage Status	45
7.7	Al Hudaydah LC Installation and Maintenance Tools & Equipment Damage Status	45

7.8	Zabid Utility Corporate Data	45
7.8.1	Zabid Utility Management & Staff	45
7.8.2	Zabid Utility Financial, Budget, and Cost Data	45
7.8.3	Zabid Utility Structures and Buildings – Damage Status	46
7.8.4	Zabid Utility Water Production & Distribution Network Data & Damage Status	46
7.8.5	Zabid Utility Wastewater System Data & Damage Status	46
7.8.6	Zabid Utility Operations & Maintenance Vehicles – Damage Status	47
7.8.7	Zabid Utility Installation & Maintenance Tools & Equipment – Damage Status	47
7.9	Al Mansouriah Utility Corporate Data	47
7.9.1	Al Mansouriah Utility Management & Staff	47
7.9.2	Al Mansouriah Utility Financial, Budget, and Cost Data	47
7.9.3	Al Mansouriah Utility Structures and Buildings – Damage Status	48
7.9.4	Al Mansouriah Utility Water Production & Distribution Network Data & Damage Status	48
7.9.5	Al Mansouriah Utility Wastewater System Data & Damage Status	48
7.9.6	Al Mansouriah Utility Operations & Maintenance Vehicles – Damage Status	48
7.9.7	Al Mansouriah Utility Installation & Maintenance Tools & Equipment – Damage Status	48
7.10	Bajil Utility Corporate Data	49
7.10.1	Bajil Utility Management & Staff	49
7.10.2	Bajil Utility Financial, Budget, and Cost Data	49
7.10.3	Bajil Utility Structures and Buildings – Damage Status	50
7.10.4	Bajil Utility Water Production & Distribution Network Data & Damage Status	50
7.10.5	Bajil Utility Wastewater System Data & Damage Status	50
7.10.6	Bajil Utility Operations & Maintenance Vehicles – Damage Status	51
7.10.7	Bajil Utility Installation & Maintenance Tools & Equipment – Damage Status	51
7.11	Bait Al Faqih Utility Corporate Data	51
7.11.1	Bait Al Faqih Utility Management & Staff	51

7.11.2	Bait Al Faqih Utility Financial, Budget, and Cost Data	51
7.11.3	Bait Al Faqih Utility Structures and Buildings – Damage Status	52
7.11.4	Bait Al Faqih Utility Water Production & Distribution Network Data & Damage Status	52
7.11.5	Bait Al Faqih Utility Wastewater System Data & Damage Status	52
7.11.6	Bait Al Faqih Utility Operations & Maintenance Vehicles – Damage Status	53
7.11.7	Bait Al Faqih Utility Installation & Maintenance Tools & Equipment – Damage Status	53
7.12	Observations	53
7.13	Stage One Conclusions	54
7.14	Stage One Recommendations	54

8. IBB LOCAL CORPORATION (LC)

8.1	Background	55
8.2	Ibb LC Corporate Data	56
8.2.1	LC Board of Directors (BOD)	56
8.2.2	LC Management and Staff	56
8.2.3	LC Corporate Financial, Budget and Cost Data	56
8.3	Ibb LC Structures and Buildings – Damage Status	58
8.3.1	Main Office	58
8.3.2	Pumping Station Buildings	58
8.3.3	Water Storage	58
8.4	Ibb LC Water Production and Distribution Network – Data & Damage Status	58
8.4.1	Tube Wells and Well Heads	58
8.4.2	Water Distribution network	58
8.4.3	Water Supply Data	58
8.4.4	Water Meters	58
8.4.5	Non-Revenue Water (NRW)	58
8.5	Ibb LC Wastewater System Data & Damage Status	58
8.5.1	Wastewater Treatment Plant (WWTP)	58
8.5.2	Wastewater Collection Network	58
8.6	Ibb LC Operations and Maintenance Vehicles – Damage Status	59
8.7	Ibb LC Installation and Maintenance Tools & Equipment – Damage Status	59
8.8	Observations	59
8.9	Stage One Conclusions	59
8.10	Stage One Recommendations	59

9. LAHIJ LOCAL CORPORATION (LC)

9.1	Background	60
9.2	Lahij LC Corporate Data	61
9.2.1	LC Board of Directors (BOD)	61
9.2.2	LC Management and Staff	61
9.2.3	LC Corporate Financial, Budget and Cost Data	61
9.3	Lahij LC Structures and Buildings – Damage Status	62
9.3.1	Main Office	62
9.3.2	Pumping Station Buildings	62
9.3.3	Water Storage	62
9.4	Lahij LC Water Production and Distribution Network – Data & Damage Status	62
9.4.1	Tube Wells and Well Heads	62
9.4.2	Water Distribution network	62
9.4.3	Water Supply Data	62
9.4.4	Water Meters	62
9.4.5	Non-Revenue Water (NRW)	62
9.5	Lahij LC Wastewater System Data & Damage Status	62
9.6	Lahij LC Operations and Maintenance Vehicles Damage Status	63
9.7	Lahij LC Installation and Maintenance Tools & Equipment Damage Status	63
9.8	Observations	63
9.9	Stage One Conclusions	63
9.10	Stage One Recommendations	63

10. SA'ADA LOCAL CORPORATION (LC)

10.1	Background	64
10.2	Sa'ada LC Corporate Data	65
10.2.1	LC Board of Directors (BOD)	65
10.2.2	LC Management and Staff	65
10.2.3	LC Corporate Financial, Budget and Cost Data	65
10.3	Sa'ada LC Structures and Buildings – Damage Status	66
10.3.1	Main Office	66
10.3.2	Pumping Station Buildings	66
10.3.3	Water Storage	66
10.4	Sa'ada Water Production and Distribution Network – Data & Damage Status	66
10.4.1	Tube Wells and Well Heads	66
10.4.2	Water Distribution network	66
10.4.3	Water Supply Data	66
10.4.4	Water Meters	66

10.4.5	Non-Revenue Water (NRW)	66
10.5	Sa'ada LC Wastewater System Data & Damage Status	66
10.6	Sa'ada LC Operations and Maintenance Vehicles Damage Status	67
10.7	Sa'ada LC Installation and Maintenance Tools & Equipment Damage Status	67
10.8	Observations	67
10.9	Stage One Conclusions	67
10.10	Stage One Recommendations	67

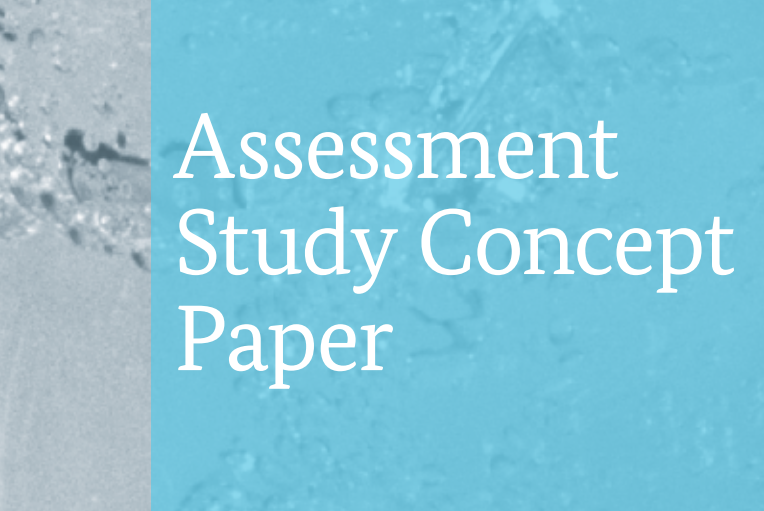
11. SANA'A LOCAL CORPORATION (LC)

11.1	Background	68
11.2	Sana'a LC Corporate Data	69
11.2.1	LC Board of Directors (BOD)	69
11.2.2	LC Management and Staff	69
11.2.3	LC Corporate Financial, Budget and Cost Data	69
11.3	Sana'a LC Structures and Buildings – Damage Status	71
11.3.1	Main Office	71
11.3.2	Pumping Station Buildings	71
11.3.3	Water Storage	71
11.4	Sana'a Water Production and Distribution Network – Data & Damage Status	71
11.4.1	Tube Wells and Well Heads	71
11.4.2	Water Distribution network	71
11.4.3	Water Supply Data	71
11.4.4	Water Meters	72
11.4.5	Non-Revenue Water (NRW)	72
11.5	Sana'a LC Wastewater System Data & Damage Status	72
11.6	Sana'a LC Operations and Maintenance Vehicles Damage Status	72
11.7	Sana'a LC Installation and Maintenance Tools & Equipment Damage Status	72
11.8	Observations	72
11.9	Stage One Conclusions	73
11.10	Stage One Recommendations	73

12. TAIZ LOCAL CORPORATION (LC)

12.1	Background	74
12.2	Taiz LC Corporate Data	75
12.2.1	LC Board of Directors (BOD)	75
12.2.2	LC and Branch Office Management and Staff	75

12.2.3	LC Corporate Financial, Budget and Cost Data	75
12.2.4	Mukha Brance Office Corporate Financial, Budget and Cost Data	76
12.2.5	Al Turbah Branch Office Corporate Financial, Budget and Cost Data	77
12.3	Taiz LC Structures and Buildings – Damage Status	77
12.3.1	Main Office	77
12.3.2	Pumping Station Buildings	78
12.3.3	Water Storage	78
12.4	Taiz LC and Branches Water Production and Distribution Network – Data & Damage Status	78
12.4.1	Tube Wells and Well Heads	78
12.4.2	Water Distribution network	78
12.4.3	Water Supply Data	79
12.4.4	Water Meters	79
12.4.5	Non-Revenue Water (NRW)	79
12.5	Taiz LC Wastewater System Data & Damage Status	79
12.6	Taiz LC Operations and Maintenance Vehicles Damage Status	80
12.7	Taiz LC Installation and Maintenance Tools & Equipment Damage Status	80
12.8	Observations	80
12.9	Stage One Conclusions	80
12.10	Stage One Recommendations	80



Assessment Study Concept Paper

Purpose

The Yemeni Ministry of Water and Environment (MWE), and in particular the Office of the Deputy Minister of Water, determined that the MWE urgently needed a detailed picture of the current and post-conflict situation regarding the operational capacity of twelve of its main Local Water Corporations (LWC). The most appropriate vehicle for this is judged to be an Assessment Study comprising two stages.

The first stage will be a detailed account of the current situation. A second stage to the study will focus on a reliable set of scenarios encapsulating what the post-conflict operational and financial conditions of the LWCs will need to be.

Additionally, it is envisaged that from the details produced in the first and second stages, a paper will be produced outlining a strategic approach to the short-to-medium-term Facility and Operational requirements. These requirements will be developed around crucial replacement, rebuilding, repairing and operational performance enhancing necessities, presented by way of an '*Investment Plan*' format. Each LWC will have an '*Investment Plan*,' covering a 3–5 year implementation period.

The overall purpose of the study is to achieve, in a timely and efficient manner, firstly a detailed picture of the current operating conditions and critical requirements of the LWCs; and secondly, post-conflict details pertaining to what is needed to maintain basic and safe water supplies and sanitation services.

Objectives

The general objective of the study is to provide the MWE with a sound and reliable set of data and information that reflects both the LWCs current and post conflict operational performance.

The specific objectives are to:

- utilize the data to formulate a catalogue of critical equipment, supplies and financial support that can be procured, supported and/or serviced from within Yemen during the current conflict; and
- gain a reliable set of scenarios for equipment, supplies and financial inputs in a post-conflict situation.

Scope of Work

The study will be conducted over a two and one half month period and would involve collecting data and information from 12 LWCs, namely: Sana'a; Aden; Taiz; Ibb; Al Hodeidah; Al Mukalla; Sa'dah; Amran; Lahij; Abyan (Zinjibar); Hajjah; Dhamar.

Collecting data and information from the LWCs will be accomplished by a team of eight technical/financial specialists. They will be guided by structured data and information forms derived from a detailed TORs.

Once data and information has been entered on to the forms, they will be sent to an administrative team for typing and translation (when and where required).

The formatted and translated documents will then be submitted to a Senior Team of Advisors in the MWE, comprising a Civil Engineer (Team Leader), a Sanitation Engineer, a Mechanical/Electrical Engineer and a Financial Manager. The senior team will collate, verify, analyse the data and information. Furthermore, the team will prioritise the specified requirements according to the current and post-conflict circumstances, for example, procurement regulations, available budgets, availability of the goods in Yemen.

The senior team will submit all final documentation to the GIZ Work Area 3 (Urban Water Supply and Sanitation) International Team Leader who will prepare a final report covering the current and post-conflict circumstances.

Expected Results

The final report will be a combination of LWCs and their critical operational needs at a given point in time; and a set of LWC operational scenarios based on what post-conflict circumstances might look like.

The report will enable the MWE to:

- establish an inventory of immediate and short-term requirements that support the provision of safe drinking water and sanitation facilities and services;
- reduce and ultimately eliminate the duplication of requests to Donors, International Non-Governmental Organizations (INGO), National Non-Governmental Organizations (NGO) and International Financial Institutions (IFI);
- strengthen their donor coordination activities;
- prioritise the immediate and short-term needs of the LCs;
- implement a restructured set of performance indicators to suit current and post-conflict circumstances;
- be able to present a detailed set of technical and financial requirements to Donors and INGOs for funding.





Executive Summary

The Stage One assessment report was developed and prepared on the data and damage responses from 12 Local Corporations (LC) and 10 utilities/branch offices. The data collection forms were the means to assess the governance, financial, technical operations and managerial situations in each establishment. The original concept paper provided the criteria for stage one that being what can be accomplished in the way of support and procurement during the conflict period.

Governance & Management

In all but a few cases, the governance mechanism of the LCs has not functioned during the conflict period. Those that did, primarily looked at ways and means of paying salaries and improving the revenue position. It would appear that there has been no guidance from the Boards or Advisory committees as to how to continue business under conflict circumstances. Management seem to have taken the decision to operate and provide emergency water supplies and sanitation in the most practical manner possible, given the various circumstances.

In all cases the LCs, their branch offices and associated utilities have maintained a skeleton staff throughout the conflict period. In many instances the number and function of the staff working was not disclosed. Staff that have been working however, have not received salaries for many months.

Financial

The financial data overall was consistent in the way it was reported. With some LCs, the budgetary figures appeared to be contradictory and in others the math was inconsistent. This was determined by reviewing the background data with the institutional efficiency assessment data. Cross checking between water production and cost coverage figures showed many discrepancies. Cost of water and weighted average tariff figures were in most instances well calculated but in some LCs they did not report any figures at all or the numbers were unrealistic. Billing & collection and water production figures compared to non-revenue water (NRW) data in a few LC was suspect. Some very low NRW figures were reported where the operational average in Yemen has and is around 23% – 25%. Financial management in most LCs, their branches and associated utilities would appear to be a major weakness.

Technical Operations

Population coverage and connection data was found to be consistent although in some cases it was difficult to determine if the LC figures included the branch or utility data i.e. Hadramout LC and Taiz LC.

In every case, the LCs, branches and utilities all provided water supply regularity and quality figures. Hadramout LC reported two figures which were taken as one for the LC and one for a utility.

Damage Assessment

The major portion of the assessment was devoted to a damage assessment of the buildings and infrastructure as part of the water supply and wastewater system. In this section the quality of the data and supporting evidence had huge variances in completeness and quality.

The forms were designed to provide a picture of the situation by asking for Quantities were applicable, Physical Condition (totally destroyed or partially damaged), was the damaged facility still being used and/or occupied, if the data related to parts and equipment were they still working or not, and under the notes column, photographs were asked for, comprehensive lists of damages and the location of the destruction was requested.

A few LCs provided photographs and details of the damage. The majority did not provide any evidence of the damage to buildings, the specification of the building before it was totally destroyed (was it one floor or multi-story, what was the size – m²). Many reported damage to doors and window but few gave details (size, materials). In the case of equipment, items were identified in all LC that had damage assessments but few provided details on the specific equipment or parts and there was little evidence to verify if it was damaged or looted. Specific details on most equipment is available in the *KfW Water Crisis Programme Yemen – Technical Needs Assessment Report 2015*.

Essentially the stage one assessment drew conclusions that took the concept paper criteria and technical information provided by GIZ team member and applied it to each LC-Branch-Utility assessment summary (one of twelve chapters); and determined the most feasible and practical actions in terms of emergency support for the LCs, branch offices and utilities.



The Assessment Study Report

The basis for this report is the content of the Assessment Study Concept Paper. The report consists of twelve chapters that include stage one conclusions and recommendations. Each chapter is dedicated to a Governorate and its LC and where applicable branch offices and supporting utilities.

Each chapter summarizes data provided by and from the LCs, their branches and associated utilities which was collected in assessment forms developed by a senior team of MWE and LC personnel with comments provided by GIZ staff and consultants.

The summarized data was reviewed in terms of completeness (according to the data collection form format and instructions), ambiguity and organizational clarity. The reviewed comments are presented in a section of each chapter entitled ‘*Observations*.’

It should be noted that all there was insufficient data on whether the damaged items were useable or not, rendering the future requirements uncertain. Additionally, photographic evidence of the destruction and/or damage to structures, networks and equipment was lacking.

Specifically, the Stage One report focuses on actions that can be procured, delivered, installed and commissioned during the current armed conflict period.

Stage One in each chapter draws conclusions which are based on the data presented in the assessment forms. Stage One also presents recommendations on actions that are feasible, practical and can be implemented and/or achieved while the armed conflict continues. The recommendations also take into account the procurement and logistical challenges that are currently present in Yemen.

The supporting annexes (B through to M) provide copies of additional data, specifications and photographs that were provided by the LCs. In addition, annex A contains copies of the assessment data collection forms.

1.

Abyan Local Corporation

ABYAN GOVERNORATE – GEOGRAPHIC LOCATION



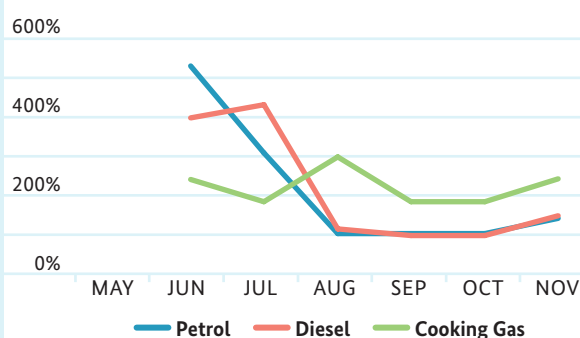
1.1 Background

Seat	Zinjibar
Area	21,939 km ²
Altitude	18 m (Zinjibar)
GPS Coordinates	Latitude: 13.135021 Longitude: 45.38864
Population & demographics	Abyan governorate has a low population density of 23/km ² with an estimated 0.2% of Yemen's overall population (559,000). Biggest cities are Zinjibar (82,000 inhabitants) and Madiyah (approx. 20,000 inhabitants).
Population movement and IDPs	Abyan hosts 186,997 displaced individuals (Nov 2015). About two-thirds of the IDPs originate from within the governorate.
Socio-economic situation and conflict implications	Shortages of main commodities were common during the first months of the war but availability has improved since mid-2015. Retail prices for essential food items are about 50% higher, fuel and gas prices have stabilised by about 100–150% higher prior crisis (WFP, November 2015).

Conflict impact on WASH sector

Prior crisis, about 240,300 people had no access to (improved) water sources (sanitation: 250,980). This situation has further worsened. Due to fuel shortages, the urban public water network in Zinjibar is at imminent risk of ceasing operations unless more fuel becomes available. According to UNDP household survey data in the governorate (Rapid Integrated Assessment), in the 30 days prior to the survey, 50.06% lacked safe clean water and 38.5% of residents surveyed spent more than one hour fetching water. Some residents witnessed that the governorate is without public electricity and water for the last few months (UNDP, 2015).

Price changes from pre-crisis level (in %) in 2015



1.2 Abyan LC Corporate Data

The full and legal name is the Abyan Water & Sanitation Local Corporation, Abyan Governorate. It was formed in 2006, is located in Zinjibar, and the current Director General of the corporation is Saleh Mohammed Belidi. The designated focal person for GIZ interventions during the conflict is Saleh Mohammed Belidi.

1.2.1 LC Board of Directors (BoD)

The current BOD consists of the following members:

<i>Dr. Alkhadr Nasser Al-Saeedi</i>	<i>Governor, Board Chairman</i>
<i>Mr. Mansour Ahmed Saeed Belidi</i>	<i>Board Secretary</i>

BOARD MEMBERS

<i>Eng. Saleh Mohammed Belidi</i>	<i>Corporation General Manager</i>
<i>Mr. Saeed Al-Amood</i>	<i>Financial Manager</i>
<i>Mr. Haidarah Saleh Al-Shaddadi</i>	<i>Planning Manager</i>
<i>Mr. Mohammed Ali Saleh Al-Wali</i>	<i>Chamber of Commerce</i>
<i>Mr. Faisal Al-Baadani</i>	<i>Representative of Ministry of Water</i>
<i>Mr. Khaled Muhsen Belidi</i>	<i>Water Resources Manager</i>
<i>Mr. Mohammed Danba'a</i>	<i>Security Director of the Governorate</i>
<i>Dr. Mansour Jumai'e</i>	<i>Representative of the beneficiaries</i>

During the current armed conflict, the BoD held one meeting (date unknown); the two main items dealt with were the exemption of debtors and the approval of a lump-sum fee for water supplied.

1.2.2 LC Management and Staff

The management team consists of ten individual managers who last received their salaries in December 2014. Prior to the conflict there was a staff compliment of 243; ninety of which were in the technical section, eighteen in the financial section and twenty-three in the administrative/management section. Currently there are a total of 20 persons who have been working, 10 of which are managers and the remaining 10 are working on water supply tasks.

1.2.3 LC Corporate Financial, Budget and Cost Data

Current cash flow (monthly)	0 YER
Post conflict cash flow requirement (monthly)	15,004,000 YER
Current Bank Balance (current account)/ average	0 YER
Balance required in a post-conflict situation	15,000,000 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	0 YER
Total recurrent budget requested for 2014	1,079,257,000 YER
Total recurrent budget approved/received for 2014	643,616,000 YER
Total recurrent budget executed (spent) in 2014	118,795,328 YER
Of which from national budget	111,085,000 YER
Of which own resources	7,710,328 YER
Of which donor funded	–
Of 2014 recurrent expenditure, how much spent for salaries	91,885,000 YER
Of 2014 recurrent expenditure, how much spent for others (specify)	26,910,328 YER
2014 rate of expenditure vs. approved recurrent budget	18%
What if any additional subsidies received from Ministry of Finance during conflict situation	68,913,747 YER
Total recurrent budget requested for 2015	1,194,257,000 YER
Total recurrent budget approved/received for 2015	643,616,000 YER
Total recurrent budget executed (spent) in 2015	79,901,247 YER
Of which from national budget	68,913,747 YER
Of which own resources	5,000,000 YER
Of which donor funded	–
Of 2015 recurrent expenditure, how much spent for salaries	10,987,500 YER
Of 2015 recurrent expenditure, how much spent for others	68,913,747 YER
2015 rate of expenditure vs. approved recurrent budget	12.41%

COST COVERAGE

Total expenditure 2014	102,213,131 YER
Total revenue 2014	99,595,328 YER
Operational loss 2014	2,617,803 YER
Collection efficiency (billed vs. received) 2014	8%
2014 average cost per m ³ water produced	24.1 YER
Actual 2014 average cost per m ³ water produced	253.0 YER
2014 weighted average tariff per m ³ water sold	39.7 YER
Actual 2014 weighted average tariff per m ³ water sold	167.0 YER
Total expenditure Sept 2015	22,971,250 YER
Total revenue 2015	–
Operational loss 2015	22,971,250 YER
Collection efficiency (billed vs. received) 2015	0%
2015 average cost per m ³ water produced	150.3 YER
Actual 2015 average cost per m ³ water produced	263.0 YER
2015 weighted average tariff per m ³ water sold	–
Actual 2015 weighted average tariff per m ³ water sold	223.0 YER

1.3 Abyan LC Structures & Buildings – Damage Status

1.3.1 Main Offices

The Abyan Local Corporation has indicated that its main office building consisting of 13 rooms has been totally destroyed since May 2011 along with all office equipment, furniture, lighting, washrooms etc.

1.3.2 Pumping Stations

One exterior fence has received partial damage; whereas three gates have been completely destroyed.

1.3.3 Water Storage

A total of three reservoirs were in place and all have been totally destroyed. Capacity of each is not known.

1.4 Abyan Water Production & Distribution Network – Data and Damage Status

1.4.1 Tube Wells and Well Heads

The LC is reporting that valves and flowmeters have been partially damaged at 7 well head sites. Thirteen submersible pumps units were sent to Aden LC for repairs but their condition and current whereabouts is unknown.

The number of operating wells at the end of 2014 was 21 and the same number in September 2015.

1.4.2 Water Distribution Network

Abyan LC has 3,000 meters of main water lines and 7,000 meters of distribution network piping all of which seems to have suffered partial damage.

COVERAGE

Present urban population in areas of influence (No. of inhabitants)	81,816
Urban population connected to water network end of 2014	84%
Urban population connected to water network end of Sept 2015	85%

CONNECTIONS

No. of house connections planned 2014	1,500
No. of house connections connected in 2014	712
Accumulated No. of house connections to end of Sept 2015	11,355

Water supplied through the distribution network is available less than 6 hours per day.

Water quality checks are conducted semi-annually and water samples are analysed at the Aden LC laboratory.

1.4.3 Water Supply Data

Total water produced in 2014	4,234,522 m ³
Total water billed in 2014	2,574,175 m ³
Total water produced in September 2015	152,876 m ³
Total water billed in September 2015	no bills issued

1.4.4 Water Meters

Water meters were lost and/or looted in armed conflict of 2011 and 2015.

1.4.5 Non-Revenue Water (NRW)

Average NRW for 2014 of water produced	39.2%
Average NRW for 2015 of water produced	100%

1.5 Abyan LC Wastewater System – Data & Damage Status

Abyan LC has a wastewater treatment system that is designed to process 24,000 m³ per day. The current effective inflow is 500 m³ with an outflow of 250 m³ per day. These figures have remained basically the same during the period prior to and during the conflict. The wastewater treatment plant (WWTP), collection network piping and main truck lines appear to be free from any major damage.

COVERAGE

Urban population connected to sewerage network end of 2014	56%
Urban population connected to sewerage network end of Sept 2015	56%

CONNECTIONS

No. of house connections planned for 2014	0
No. of house connections produced 2014	0
Accumulated No. of house connections at end of Sept 2015	0

1.6 Abyan LC Operations and Maintenance Vehicles – Damage Status

The LC reported that a crane and a backhoe have been stolen. In addition a jet pump which is used on the sewer collection network has been totally destroyed.

1.7 Abyan LC Installation and Maintenance Tools & Equipment – Damage Status

The LC reported that two mobile pumps have been partially damaged.

1.8 Observations

The following observations are based on what was reported or not and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or improvement.

Management:

- One meeting was held during the conflict and it was to deal with the exemption of debtors and the approval of a lump-sum fee for water supplied.
- Ten managers and ten technical water supply workers have continued to work during the conflict but the LCs has not paid any salary since December 2014.
- There has been a total of 243 staff working prior to the conflict but the main office and its office equipment, furniture and infrastructure were destroyed in 2011 – where have personnel been accommodated and what equipment has been used since 2011?
- There is lack of data on the current cash flow and current bank balance yet there was 102 million Rials in expenditure and 99.5 million Rials in revenue. In addition, there are figures for a monthly cash flow and bank balance in a post conflict situation but no data on which this is based for the current situation.

Technical:

- The LC reported no data on existing or functioning water meters however they reported 1000 water meters were looted.
- Reservoir size/capacity is not stated.
- In 2014 there were 21 wells working as there were in 2015. In 2014 the overall average of 21 wells was producing 24 m³/hr. In 2015 the average amount produced dropped to 10 m³/hr using 21 wells.
- In one section of data provided water is provided 8 hrs per day and in another section, it is less than 6 hours per day.
- The present urban population in area of influence is 81,816. The population served with sewer connection is 56% which is 45,816 inhabitants plus government and industrial facilities with no new connections in 2015. The plant only receives 500 m³/day which is questionably low, when the design capacity is 24,000 m³/day. Why such a high design capacity?

1.9 Stage One Conclusions

This set of data needs to be improved in terms of being realistic and complete.

1.10 Stage One Recommendations

- R1** LC requires a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that are working during the conflict period.
- R2** Prepare a more detailed set of financial data based on actual situations.
- R3** Prepare a more realistic set of data complete with pictures of damaged buildings and infrastructure, specifications pertaining to damaged structures, equipment, and vehicles.
- R4** An overview of how the LC has been conducting business since the destruction of its Head Office in 2011 and any other structures damaged in 2011.

2.

Aden Local Corporation

ADEN GOVERNORATE – GEOGRAPHIC LOCATION



2.1 Background

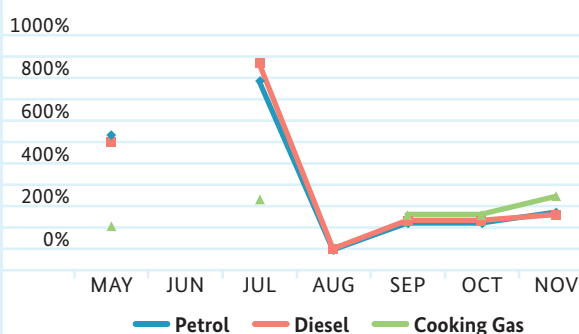
Seat	Aden City
Area	1.114 km ²
Altitude	208 m (Aden City)
GPS Coordinates	Latitude: 12.785497 Longitude: 45.018655
Population & demographics	Aden City is the second largest city in Yemen with 761,000 inhabitants (2012) and a population density of 695/km ² .
Population movement and IDPs	In November/December 2015, a large-scale return of approximately 380,000 IDPs has taken place that reduced the number of hosted IDPs to 12,792. However, the needs for support remain high together with the rest of the conflict-affected population that was not displaced.
Socio-economic situation and conflict implications	Main commodities were not available or only sporadically available during the first months of the war, but availability has improved since July/August. Retail prices for essential food items are about 50% higher, fuel and gas prices have stabilised by about 150–200% higher prior crisis (WFP, November 2015).

Conflict impact on WASH sector

Prior crisis, about 375,750 people had no access to (improved) water sources (sanitation: 392,450).

Aden was hit by violence in a battle for Aden International Airport on 19 March 2015. After the airport battle, the entire city became a battleground which left large parts of the city in ruins and has destroyed major water supply and sanitation components. The lack of fuel set public water networks and water trucking services at imminent risk of stopping of services.

Price changes from pre-crisis level (in %) in 2015



2.2 Aden LC Corporate Data

The full and legal name is the Local Corporation for Water and Sanitation, Aden Governorate. It was formed in 2000, is located in Aden city, and the current Director General of the corporation is Eng. Najeeb Mohamed Ahmed. The designated focal persons for GIZ interventions during the conflict are Eng. Najeeb Mohamed Ahmed and Eng. Naseer Abdulrahman.

2.2.1 LC Management Board – Fundamental and Secondary Committee

The current Management Board – Fundamental Committee consists of the following members:

<i>Mr. Jafaar Mohammed Saad</i>	<i>Governor of Aden, Chairman</i>
<i>Eng. Najeeb Mohammed Ahmed</i>	<i>General Manager of LC Aden, Board Member</i>
<i>Eng. Abdulaziz Mahyoob</i>	<i>Water Resources General Manager, Board Member</i>
<i>Mr. Abdulhakeem Al-Thari</i>	<i>Finance Office General Manager, Board Member</i>
<i>Dr. Sameer Abdulrazaq</i>	<i>General Manager, Office of Planning and International Cooperation in Aden, Board Member</i>
<i>Mr. Ammar Al-Iryani</i>	<i>Ministry of Water and Environment Consultant, Board Member</i>
<i>Mr. Rashad Hayel</i>	<i>Private Sector Representative – Board Member</i>
<i>Mr. Abdullah Abdulfattah Al-Junaid</i>	<i>Citizens' Representative, Board Member</i>
<i>Mr. Ali Mahmoud Harharah</i>	<i>Management Board Secretary</i>
<i>Sawsan Jan Mohammed Sulaiman</i>	<i>Typist</i>

The current Management Board – Secondary Committee consists of the following members:

<i>Mr. Ali Askar</i>	<i>Deputy General Manager for Water Affairs</i>
<i>Mr. Zakki Haddad</i>	<i>Deputy General Manager for Sanitation Affairs</i>
<i>Mr. Nusair Abdulrahman</i>	<i>General Manager of Planning, Statistics and Investment</i>
<i>Mr. Murad Malek</i>	<i>Financial Manager</i>
<i>Mr. Tawfiq Al-Saqqaf</i>	<i>Auditing General Manager</i>
<i>Ms. Asmahan Abdo Qassem</i>	<i>Director of Women Department</i>

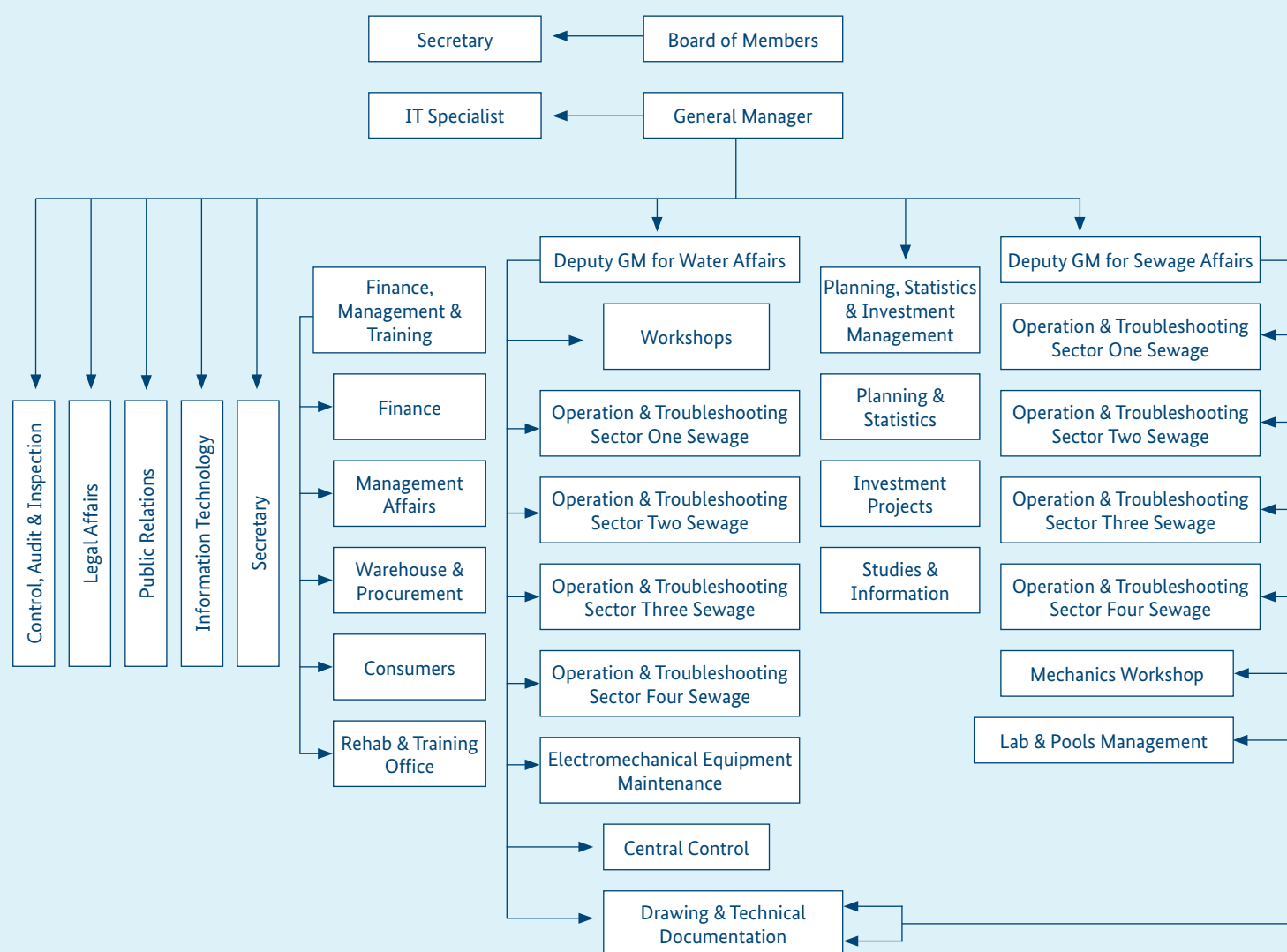
The Management Board met four times in 2014 and twice in 2015. Neither board have convened a meeting during the current armed conflict. Once the conflict ends the Board will meet to discuss what the LC will need to do in the immediate future.

2.2.2 LC Management and Staff

The current management team consists of three individual managers who last received their salaries in September 2015. Prior to the conflict there was a staff compliment of 1,940; two hundred and fifty seven are working during the conflict. It is not known how many of the 257 persons working are from the various areas (water supply, finance, admin, customer relations, wastewater, O & M etc.). An Organization Structure chart can be seen on the next page.

ADEN ORGANISATION CHART

Ministry of Water and Environment Organizational structure of the water and sanitation local corporation in Aden Meeting of BOD in November 2001.



2.2.3 LC Corporate Financial, Budget and Cost Data

Current cash flow (monthly) Jan 2015	230,150,060 YER
Post conflict cash flow requirement (monthly)	330,000,000 YER
Current Bank Balance (current account)/ average	634,707,000 YER
Balance required in a post-conflict situation	6,402,496,000 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	11,000,000,000 YER
Total recurrent budget requested for 2014	6,856,901,000 YER
Total recurrent budget approved/received for 2014	5,306,439,000 YER
Total recurrent budget executed (spent) in 2014	5,417,177,238 YER
Of which from national budget	385,836,224 YER
Of which own resources	0 YER
Of which donor funded	0 YER
Of 2014 recurrent expenditure, how much spent for salaries	2,744,875,000 YER
Of 2014 recurrent expenditure, how much spent for others	312,765,000 YER
2014 rate of expenditure vs. approved recurrent budget	103%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	6,402,496,000 YER
Total recurrent budget approved/received for 2015	5,306,439,000 YER
Total recurrent budget executed (spent) in 2015	5,355,723,664 YER
Of which from national budget	0 YER
Of which own resources	0 YER
Of which donor funded	60,000,000 YER
Of 2015 recurrent expenditure, how much spent for salaries	1,795,016,000 YER
Of 2015 recurrent expenditure, how much spent for others	0 YER
2015 rate of expenditure vs. approved recurrent budget	100.93%

COST COVERAGE

Total expenditure 2014	5,398,131,000 YER
Total revenue 2014	4,805,272,350 YER
Operational loss 2014	592,859,650 YER
Collection efficiency (billed vs. received) 2014	88%
2014 average cost per m ³ water produced	130.5 YER
Actual 2014 average cost per m ³ water produced	78.6 YER
2014 weighted average tariff per m ³ water sold	220.3 YER
Actual 2014 weighted average tariff per m ³ water sold	121.9 YER
Total expenditure Sept 2015	1,831,955,788 YER
Total revenue 2015	552,717,076 YER
Operational loss 2015	1,279,238,712 YER
Collection efficiency (billed vs. received) 2015	0%
2015 average cost per m ³ water produced	642.5 YER
Actual 2015 average cost per m ³ water produced	78.6 YER
2015 weighted average tariff per m ³ water sold	–
Actual 2015 weighted average tariff per m ³ water sold	121.9%

2.3 Aden LC Structures & Buildings – Damage Status

2.3.1 Main Offices

The Aden Local Corporation has indicated that its main office building has been partially damaged by bomb blasts. The building infrastructure as well as office equipment and furniture, were also partially damaged. Six stores building have also sustained some damage including the contents. Additionally, the Water Lab sustained internal damage to equipment, supplies and work surfaces.

2.3.2 Water Pumping Stations

The LC reports that none of the pumping station buildings are damaged. Some electro-mechanical equipment has been demolished.

2.3.3 Water Storage

A total of ten reservoirs were in place; two have been totally destroyed and eight have sustained partial damage.

2.4 Aden Water Production & Distribution Network – Data and Damage Status

2.4.1 Tube Wells and Well Heads

The LC is reporting that 55 tube wells have incurred partial damage, but well heads and associated equipment are in working order. One hundred and seventy-seven submersible pumps have been damaged, 75 have been completely destroyed and 102 have sustained partial damage as have electrical panels and cables.

The number of operating wells at the end of 2014 was 110 and at the end of September 2015 only 80 remained in service.

2.4.2 Water Distribution Network

Aden LC has 65.8 km of main water lines; 13 km have been totally destroyed. The remaining 52.6 km show signs of partial damage. The distribution network piping amounts to 14.5 km all of which seem to have suffered partial damage.

COVERAGE

Present urban population in areas of influence (No. of inhabitants)	897,802
Urban population connected to water network end of 2014	82.54%
Urban population connected to water network end of Sept 2015	84%

CONNECTIONS

No. of house connections planned 2014	3,600
No. of house connections produced 2014	3,447
Accumulated No. of house connections to end of Sept 2015	124,974

Water supplied through the distribution network is available less than 12 hours per day.

Water quality checks are conducted at the Aden LC laboratory. Currently their lab facilities are non-functional.

2.4.3 Water Supply Data

Total water produced in 2014	41,375,064 m ³
Total water billed in 2014	24,507,615 m ³
Total water produced in September 2015	2,851,200 m ³
Total water billed in September 2015	0

2.4.4 Water Meters

The total number, at the end of 2014, of existing water meters that were either in LC stores or installed was 122,513. The total number of functioning water meters in the system at the end of 2014 was 114,398. The total number, at the end of September 2015, of existing water meters that was either in LC stores or installed was 124,974. The total number of functioning water meters in the system at the end of September 2015 was not reported.

2.4.5 Non-Revenue Water (NRW)

Average NRW for 2014	40.8%
Average NRW for 2015	100%

2.5 Aden LC Wastewater System Data & Damage Status

Aden LC is operating a wastewater system in which:

COVERAGE

Urban population connected to sewerage network end of 2014	63.9%
Urban population connected to sewerage network end of Sept 2015	64.5%

CONNECTIONS

No. of house connections planned for 2014	914
No. of house connections produced 2014	633
Accumulated No. of house connections at end of Sept 2015	105,978

2.5.1 Wastewater Ponds

Aden LC has a wastewater treatment system (Bio-Oxidation Pond) that is designed to process 95,000 m³ of influent per day. Prior to the conflict the system was generating an effective inflow of 23,974 m³ with an out-flow of 21,301 m³ per day. These figures have remained basically the same during the period before the conflict. Since March 2015 the processing of wastewater has been interrupted particularly with blockages in the collection network piping.

2.5.2 Wastewater Collection Network

The network has collection piping and trunk mains of some 18.25 km which have sustained varying measures of damage; three sewerage pumping stations have been totally destroyed and the remaining 34 have incurred some damage. A fleet of twelve flushing trucks appear to have all been damaged partially.

2.6 Aden LC Operations and Maintenance Vehicles – Damage Status

Aden LC is reporting that their O & M vehicles have incurred some damage.

2.7 Aden LC Installation and Maintenance Tools & Equipment – Damage Status

Aden LC is reporting that their Installation and Maintenance tools have sustained some damage.

2.8 Observations

The following observations are based on what was reported or not and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or report improvement.

Management:

- Two governance bodies for one LC is somewhat excessive, neither of which met during the conflict;
- An organization chart and structure was included.
- It is not clear how the 257 staff and managers that have been working during the armed conflict were distributed in terms of work areas;
- The 2015 costing of water produced and average costs seem out of proportion;

Technical:

- The population connected to the water network increased by 1.5% in 2015 from figures stated as of end of 2014. Meaning an additional 13,467 persons received water.
- The NRW figure for 2014 was stated as 40.8% which was calculated on water that was billed, not on revenue received.
- Installation and Maintenance tools have sustained some damage but details are not available.

2.9 Stage One Conclusions

The provided supporting information is very detailed with most of the content more fitting to an investment programme over 3–5 years. There is an emergency situation particularly in water pumping stations, water storage facilities and sewerage network piping.

2.10 Stage One Recommendations

- R1** LC requires a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that are working during the conflict period.
- R2** Rehabilitate up to 30 tube wells at key production sites.
- R3** Replace up to 40 damaged pumps and submersible pumps, associated electrical panels and cables, and possible fuel tanks.
- R4** Provide the network with appropriate size and lengths of piping to replace destroyed and damaged piping which convey water from the rehabilitated tube wells.
- R5** Provide 3 replacement sewerage pumps destroyed and parts & supplies for 20 of the damaged sewerage pumps.
- R6** Provide temporary office space (portable caravans); temporary material stores and workshop (used containers).
- R7** Provide basic maintenance tools.

3.

Amran Local Corporation

AMRAN GOVERNORATE – GEOGRAPHIC LOCATION



3.1 Background

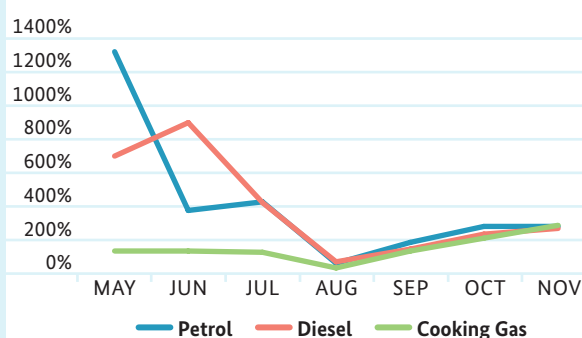
Seat	Amran City
Area	9,587 km ²
Altitude	2236 m (Amran City)
GPS Coordinates	Latitude: 15.662372 Longitude: 43.940533
Population & demographics	Amran governorate has a total population of 1,124,000. Biggest cities are Amran (90,792 population) and Thila (22,000 approx. population) 2012). The population density is low with 117/km ² . 80% of the population lives in rural settings.
Population movement and displacement	Amran hosts the second biggest number of IDPs (Nov 2015: 288,437 individuals). The numbers can be seen as linked to the sincere fighting in neighbouring governorate Saada and Hajjah.
Socio-economic situation	Shortages of main commodities were common during the first months of the war but availability has improved since mid-2015. Retail prices for essential food items are about 10–30% higher, fuel and gas prices have stabilised by about 270–300% prior crisis price level (WFP, November 2015).

Conflict impact on WASH sector

Prior crisis, about 455,850 people had no access to (improved) water sources (sanitation: 476,110).

The huge numbers of IDPs put an additional burden on water service providers and WASH infrastructure.

Price changes from pre-crisis level (in %) in 2015



3.2 Amran LC Corporate Data

The full and legal name is the Amran Local Corporation for Water and Sanitation, Amran Governorate. It was formed in 2007, is located in Amran city, and the current Director General of the corporation is Saleh Ali Alamari. The designated focal persons for GIZ interventions during the conflict is Saleh Ali Alamari and Eng. Aziz Alduais.

3.2.1 LC Board of Directors (BoD)

The current BoD members are listed below:

<i>Dr. Faisal Sagheer Jum'aan</i>	<i>Governor of Amran, Chairman</i>
<i>Sheikh/Saleh Zumam Al-Makhloos</i>	<i>Secretary General, Deputy Chairman</i>
<i>Mr. Mutahar Al-Durrah</i>	<i>District Director, Board Member</i>
<i>Mr. Saleh Ali Al-Ammari</i>	<i>General Manager of Water and Sanitation Local Corporation in Amran, Board Member</i>
<i>Dr. Mohammed Ahmed Al-Ma'akhathi</i>	<i>Representative of the Beneficiaries, Board Member</i>
<i>Mr. Ali Abdullah Al-Babbeli</i>	<i>Director of the Chamber of Commerce, Board Member</i>
<i>Mr. Dahhan Dahhan Al-Saar</i>	<i>Director of the Office of Finance in Amran, Board Member</i>
<i>Mr. Abdullah Sailan</i>	<i>Director of the Office of Planning in Amran, Board Member</i>
<i>Mr. Abdulrahman Al-Mu'alemi</i>	<i>Director of the Office of Water and Environment, Board Member</i>
<i>Mr. Basheer Al-Nusairi</i>	<i>Director of the Office of Water Resources, Board Member</i>

The BoD met four times in 2015, specific dates are not known. The meetings addressed the obstacles and problems that are preventing the LC from improving its performance; they include:

- The debt
- Unpaid and outstanding bills
- Lack of fuel for operations
- Indiscriminate drilling of wells

3.2.2 LC Management and Staff

Currently the Management Structure is under preparation and not approved by the BoD. The management team consists of fifteen individual managers who last received their salaries in September 2015. Prior to the conflict there was a staff compliment of 118; forty-five of which were in the technical section, twenty-one in the financial section and thirty two in the administrative/management section. It is not clear how many staff and managers have been and are working during the armed conflict.

3.2.3 LC Corporate Financial, Budget and Cost Data

Current cash flow (monthly)	8,543,468 YER
Post conflict cash flow requirement (monthly)	14,300,000 YER
Current Bank Balance (current account)/ average	38,989 YER
Balance required in a post-conflict situation	750,000 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	500,000 YER
Total recurrent budget requested for 2014	209,491,000 YER
Total recurrent budget approved/received for 2014	166,000,000 YER
Total recurrent budget executed (spent) in 2014	184,491,922 YER
Of which from national budget	29,610,000 YER
Of which own resources	154,881,922 YER
Of which donor funded	69,153,000 YER
Of 2014 recurrent expenditure, how much spent for salaries	118,441,142 YER
Of 2014 recurrent expenditure, how much spent for others	66,050,000 YER
2014 rate of expenditure vs. approved recurrent budget	111%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	209,491,000 YER
Total recurrent budget approved/received for 2015	166,000,000 YER
Total recurrent budget executed (spent) in 2015	138,368,941 YER
Of which from national budget	25,227,000 YER
Of which own resources	113,141,941 YER
Of which donor funded	6,750,000 YER
Of 2015 recurrent expenditure, how much spent for salaries	76,500,000 YER
Of 2015 recurrent expenditure, how much spent for others	55,600,000 YER
2015 rate of expenditure vs. approved recurrent budget	83%

COST COVERAGE

Total expenditure 2014	171,670,590 YER
Total revenue 2014	139,763,745 YER
Operational loss 2014	31,906,845 YER
Collection efficiency (billed vs. received) 2014	90%
2014 average cost per m ³ water produced	299.7 YER
Actual 2014 average cost per m ³ water produced	353.0 YER
2014 weighted average tariff per m ³ water sold	365.5 YER
Actual 2014 weighted average tariff per m ³ water sold	378.0 YER
Total expenditure Sept 2015	128,700,000 YER
Total revenue 2015	103,123,000 YER
Operational loss 2015	25,577,000 YER
Collection efficiency (billed vs received) 2015	74%
2015 average cost per m ³ water produced	283.6 YER
Actual 2015 average cost per m ³ water produced	345.0 YER
2015 weighted average tariff per m ³ water sold	370.2 YER
Actual 2015 weighted average tariff per m ³ water sold	353.0 YER

3.3 Amran LC Structures & Buildings – Damage Status**3.3.1 Main Offices**

The Amran Local Corporation has indicated that its main office building and other associated structures currently have no damage.

3.3.2 Pumping Stations

No damage to report.

3.3.3 Water Storage

No damage to report.

3.4 Amran Water Production & Distribution Network – Data and Damage Status**3.4.1 Tube Wells and Well Heads**

The LC is reporting no damage to well head equipment. The number of operating wells at the end of 2014 was 9 and in September 2015 only 5 were in operation.

3.4.2 Water Distribution Network

Amran LC has 65 km of distribution network piping. There is no damage to the piping and it has:

COVERAGE

Present urban population in areas of influence (No. of inhabitants)	88,000
Urban population connected to water network end of 2014	42%
Urban population connected to water network end of Sept 2015	48%

CONNECTIONS

No. of house connections planned for in 2014	450
No. of house connections connected in 2014	134
Accumulated No. of house connections to the end of Sept 2015	4,979

Water supplied through the distribution network is available less than once per week.

Water quality checks are conducted semi-annually and water samples are analysed at the Hajjah LC laboratory.

3.4.3 Water Supply Data

Total water produced in 2014	572,862 m ³
Total water billed in 2014	469,746 m ³
Total water produced up to and including September 2015	453,839 m ³
Total water billed up to and including September 2015	347,642

3.4.4 Water Meters

The number of existing water meters at the end of 2014, which were either in the LC stores or installed, was 347. The total number of functioning water meters in the system at the end of 2014 was 3,132. By the end of September 2015 the number of existing and functioning water meters had risen to 4,979 meters.

3.4.5 Non-Revenue Water (NRW)

Average NRW for 2014	18%
Average NRW for September 2015	23%

3.5 Amran LC Wastewater System Data & Damage Status

Amran LC is operating a wastewater treatment and collection network system in which:

COVERAGE

Urban population connected to sewerage network end of 2014	30%
Urban population connected to sewerage network end of Sept 2015	32%

CONNECTIONS

No. of house connections planned for 2014 was	450
No. of house connections connected in 2014 was	350
Accumulated No. of house connections in place to the end of Sept 2015 is	3,425

3.5.1 Wastewater Ponds

Amran LC has a wastewater treatment system (Bio-Oxidation Pond) that is designed to process 2,500 m³ of influent per day. Prior to the conflict the system was generating an effective inflow of 2,000 m³ with an outflow of approximately 1,800 m³ per day. These figures have remained basically the same during the conflict.

The number of Bio-Oxidation Ponds is not known however the LC is recording them as being undamaged. In addition, the associated electromechanical equipment at the pond sites is also free from damage.

3.5.2 Wastewater Collection Network

The network has collection piping and trunk mains of some 52 km which has not incurred any damage.

3.6 Amran LC Operations and Maintenance Vehicles – Damage Status

The LC reported no looting or damage.

3.7 Amran LC Installation and Maintenance Tools & Equipment – Damage Status

The LC reported no losses or damage.

3.8 Observations

The following observations are based on what was reported or not and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or improvement.

- A very positive indicator is referenced in that the BOD met four times during 2015 and identified issues that are causing less than desirable operational performance; they include: A heavy debt load; Unpaid and outstanding bills; A lack of fuel; and, the indiscriminate drilling of wells.
- The report was missing an organization chart for Amran LC– a key piece of information when looking at institutional aspects of a corporation.
- The assessment data is not indicating how many managers and staff are working during the conflict. This is a key indicator when attempting to gain support for financial incentives and/or salaries for workers who have and are working during the conflict period.
- It is highly unlikely that the number of existing water meters at the end of 2014 totalled 347 units; when the number of functioning meters at the end of 2014 was 3,132.
- During the conflict the number of functioning water meters increased by 1,847 meters (58%) over the 2014 total of 3,132 meters. It would seem unusual to install that many new meters during a conflict period when the commercial aspects of the LC need serious attention (debt and unpaid/outstanding bills).
- Fifteen managers working in a small LC which has 4,979 connection would seem somewhat excessive.
- There does not seem to be a logical reason why the number of production wells decreased from 9 to 5 when no damage was reported and 2015 water production seems to be in line with 2014 production figures (m³ per day).
- The total number of bio-oxidation ponds is not mentioned in the data.

3.9 Stage One Conclusion

The LC has sustained no damage to any of its capital assets; water production appears to be sufficient for conflict times and the number of connections; and O & M actions are appropriate.

3.10 Stage One Recommendations

R1 LC requires a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that are working during the conflict period.

R2 Maintain the current water supply activities.

4.

Dhamar Local Corporation

DHAMAR GOVERNORATE – GEOGRAPHIC LOCATION



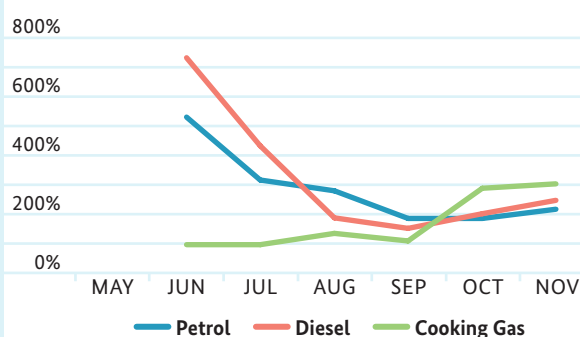
4.1 Background

Seat	Dhamar
Area	9,495 km ²
Altitude	2415 m (Dhamar City)
GPS Coordinates	Latitude: 14.54204 Longitude: 44.409512
Population & demographics	Dhamar city is the sixth biggest city in Yemen. The governorate has a total population of 1.645.436 and a population density of 179/km ² .
Population movement and displacement	Dhamar has witnessed an increase of IDPs to 137,736 (Nov 2015).
Socio-economic situation	Shortages of main commodities were common during the first months of the war but availability has improved since mid-2015. Retail prices for essential food items are about 25% higher, fuel and gas prices have stabilised by about 250–300% prior crisis prices level (WFP, November 2015).

Conflict impact on WASH sector

Prior crisis, about 792,450 people had no access to (improved) water sources (sanitation: 827,670). Urban public water networks and commercial water trucking services are at imminent risk of ceasing operations unless more fuel becomes available.

Price changes from pre-crisis level (in %) in 2015



4.2 Dhamar LC Corporate Data

The full and legal name is the Dhamar Water and Sanitation Local Corporation, Dhamar Governorate. It was formed in 2006, is located in Dhamar – Millh, and the current Director General of the corporation is Abdel Gani Al Mukhtar. The designated focal person for GIZ interventions during the conflict is not known at this time.

4.2.1 LC Management Board

The current Management Board consists of the following members:

Mr. Hamoud Mohammed Obad	Governor of Dhamar, Chairman
Judge/Mohammed al-Izzi Al-Akwa	Representative of residents, Board Member
Mr. Abdullah Ali Al Tholaya	Director of Finance Office, Board Member
Mr. Abdul Karim Al Sofyani	Director General of Water Resources Authority, Board Member
Mr. Samir Mohammed Alhaji	Director General of Planning, Board Member
Mr. Mohammed Yahya Al Khawlani	Representative of the Chamber of Commerce, Board Member

The number of meetings conducted in 2015 was two. One meeting was held on 18-11-2015 and the other was held in: 10-6-2015.

In both cases the meetings focused on collection issues and the poor revenues that are generated.

4.2.2 LC Management and Staff

The management team consists of thirteen individual managers who last received their salaries in July 2015. Prior to the conflict there was a staff complement of 330; sixty-two of which were in the technical section, twenty-nine in the financial section, a hundred and twenty one in the customer service section and twenty-four in the administrative/management section. It is not clear how many staff and managers have been and are working during the armed conflict. An organization chart can be seen on the next page.

4.2.3 LC Corporate Financial, Budget and Cost Data

Current cash flow (monthly)	23,870,255 YER
Post conflict cash flow requirement (monthly)	36,000,000 YER
Current Bank Balance (current account)/ average	17,284,579 YER
Balance required in a post-conflict situation	36,000,000 YER
Current balance of the depreciation account	35,000,000 YER
Average balance required in a post-conflict situation	50,000,000 YER
Total recurrent budget requested for 2014	0 YER
Total recurrent budget approved/received for 2014	608,278,024 YER
Total recurrent budget executed (spent) in 2014	771,245,121 YER
Of which from national budget	0 YER
Of which own resources	771,245,121 YER
Of which donor funded	0 YER
Of 2014 recurrent expenditure, how much spent for salaries	320,160,515 YER
Of 2014 recurrent expenditure, how much spent for others	451,084,586 YER
2014 rate of expenditure vs. approved recurrent budget	127%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	922,722,339 YER
Total recurrent budget approved/received for 2015	608,278,024 YER
Total recurrent budget executed (spent) in 2015	311,529,212 YER
Of which from national budget	0 YER
Of which own resources	0 YER
Of which donor funded	49,823,252 YER
Of 2015 recurrent expenditure, how much spent for salaries	198,463,173 YER
Of 2015 recurrent expenditure, how much spent for others	113,066,039 YER
2015 rate of expenditure vs. approved recurrent budget	51.21%

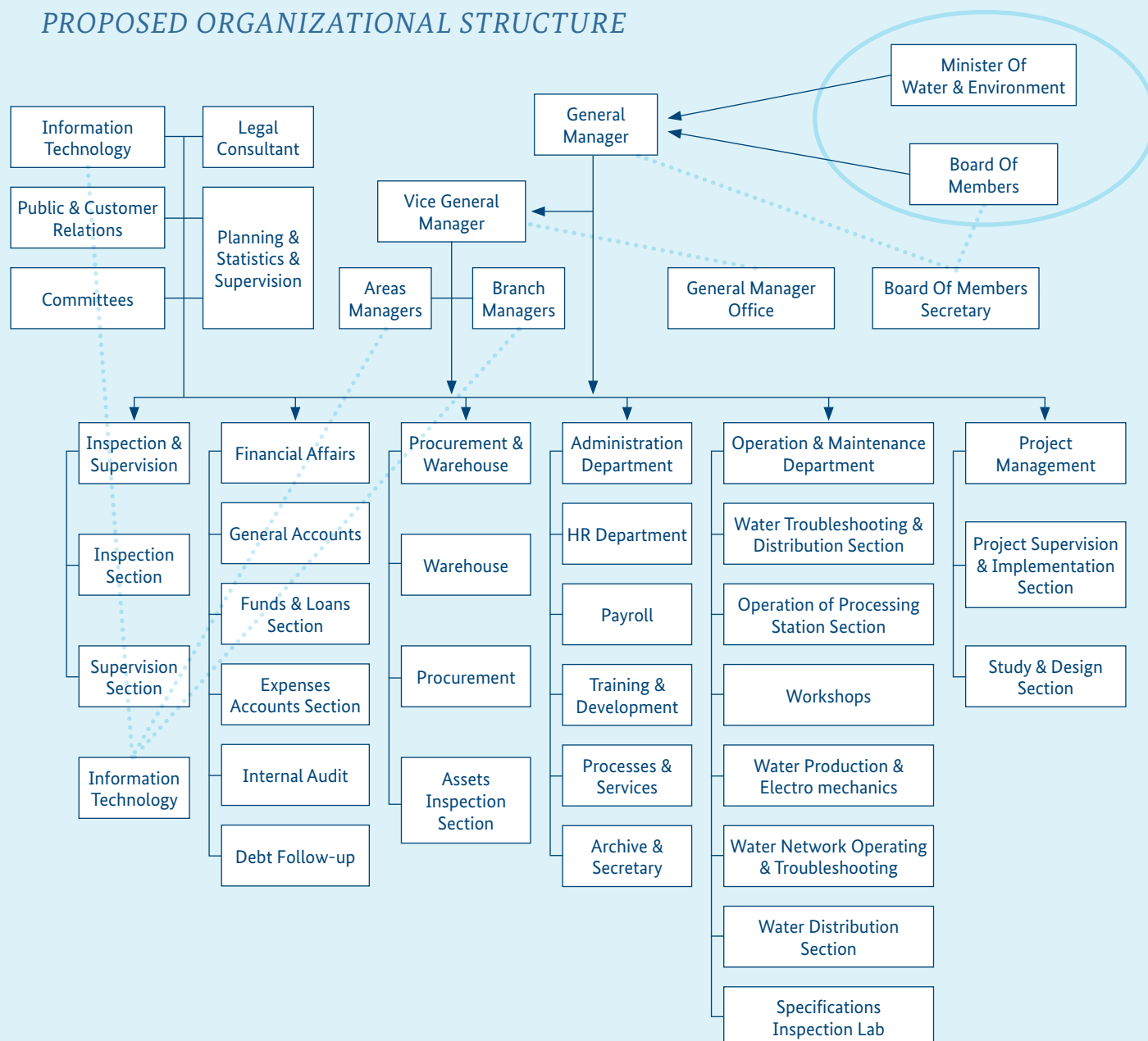
COST COVERAGE

Total expenditure 2014	771,245,101 YER
Total revenue 2014	504,884,641 YER
Operational loss 2014	266,360,460 YER
Collection efficiency (billed vs. received) 2014	84%
2014 average cost per m ³ water produced	158.0 YER
Actual 2014 average cost per m ³ water produced	253.0 YER
2014 weighted average tariff per m ³ water sold	289.3 YER
Actual 2014 weighted average tariff per m ³ water sold	167.0 YER

COST COVERAGE

Total expenditure Sept 2015	351,529,212 YER
Total revenue 2015	338,735,634 YER
Operational loss 2015	12,793,578 YER
Collection efficiency (billed vs. received) 2015	68%
2015 average cost per m ³ water produced	140.8 YER
Actual 2015 average cost per m ³ water produced	263.0 YER
2015 weighted average tariff per m ³ water sold	210.0 YER
Actual 2015 weighted average tariff per m ³ water sold	223.0 YER

LOCAL WATER & SEWAGE ESTABLISHMENT DHAMAR – PROPOSED ORGANIZATIONAL STRUCTURE



4.3 Dhamar LC Structures & Buildings – Damage Status

4.3.1 Main Offices

The Dhamar Local Corporation has indicated that its main office building and other structures have no damage to report.

4.3.2 Pumping Stations

No damage to report.

4.3.3 Water Storage

No damage to report.

4.4 Dhamar Water Production & Distribution Network – Data and Damage Status

4.4.1 Tube Wells and Well Heads

The LC is reporting damage to well head equipment – two electrical transformers have been demolished and an unspecified quantity of control panels have been partially damaged. Five tube well submersible pump motors are listed as being severely damaged. The number of operating wells at the end of 2014 was 21 and in September 2015 this figure had risen to 22.

4.4.2 Water Distribution Network

Dhamar LC has 85,000 meters of distribution network piping all of which has no damage to report and has the following:

COVERAGE

Present urban population in areas of influence (No. of inhabitants)	234,560
Urban population connected to water network end of 2014	57%
Urban population connected to water network end of Sept 2015	58%

CONNECTIONS

No. of house connections planned 2014	1,000
No. of house connections produced 2014	565
Accumulated No. of house connections to end of Sept 2015	20,302

Water supplied through the distribution network is available 24 hours per day.

Water quality checks are not conducted.

4.4.3 Water Supply Data

Total water produced in 2014	4,881,551 m ³
Total water billed in 2014	2,666,293 m ³
Total water produced in 2015	2,496,247 m ³
Total water billed in 2015	1,674,293 m ³

4.4.4 Water Meters

The number of existing water meters at the end of 2014 was 20,156 however only 13,196 were functioning. By the end of 2015 the number of functioning meters had dropped to 12,371.

4.4.5 Non-Revenue Water (NRW)

Average NRW for 2014	45.4%
Average NRW for 2015	32.9%

4.5 Dhamar LC Wastewater System Data & Damage Status

Dhamar LC is operating a wastewater system in which:

COVERAGE

Urban population connected to sewerage network end of 2014	33%
Urban population connected to sewerage network end of Sept 2015	34%

CONNECTIONS

No. of house connections planned for 2014	300
No. of house connections produced 2014	126
Accumulated No. of house connections at end of Sept 2015	12,371

4.5.1 Wastewater Ponds

Dhamar LC has a wastewater treatment system (Stabilisation Pond) that is designed to process 8,000 m³ of influent per day. Prior to the conflict the system was generating an effective inflow of 9,334 m³ with an outflow of approximately 8,300 m³ per day. These figures have remained basically the same during the period before and during the conflict.

The number of ponds is not known but the LC is recording them as being undamaged. In addition the associated electromechanical equipment at the pond sites is also free from damage.

4.5.2 Wastewater Collection Network

The network has collection piping and trunk mains of some 65 km which has not incurred any damage. However 20 main trunk line manhole covers have been stolen.

4.6 Dhamar LC Operations and Maintenance Vehicles – Damage Status

The LC reported no damage.

4.7 Dhamar LC Installation and Maintenance Tools & Equipment – Damage Status

The LC reported no damage.

4.8 Observations

The following observations are based on what was reported or not and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or report improvement.

Management:

- A new Director General has been appointed since the assessment data was compiled.
- An organization chart was included.
- It is not clear how many staff and managers have been and are working during the armed conflict.

Technical:

- In 2014, 6,960 water meters became non-functioning with no reasonable rationale, and in 2015, the number rose to 7,785.
- NRW data shows in 2014 the rate was 45.4%. In 2015 the figure dropped to 32.9% but, data shows there were 825 more non-functioning water meters.
- Stolen maintenance vehicles have no details as to make, type, age, engine size, etc.
- The design capacity of the WWTP is 8,000 m³ and the influent totals 9,334 m³;
- The number of stabilisation ponds is not provided.

4.9 Stage One Conclusions

Technically the Dhamar LC is coping with the challenges but could use some emergency help in terms of water production; fortunately damage to the systems has been minimal and staff have maintained good service.

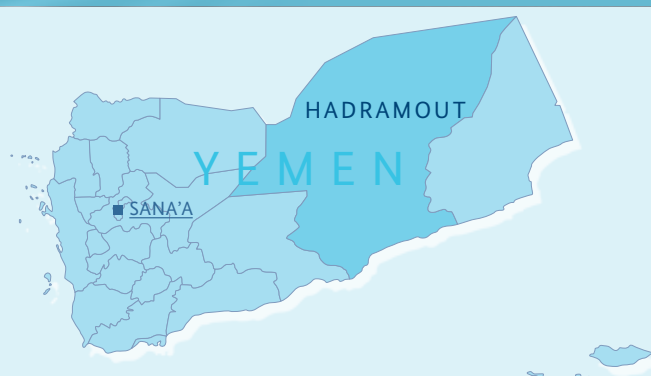
4.10 Stage One Recommendations

- R1** LC requires a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that are working during the conflict period.
- R2** Provide two new electrical transformers (100KVA) and control panels.
- R3** Provide five submersible pump motors for wells in Al Menlah, Shaibeh, Al Qosor and wells No. 25 and 26.

5.

Hadramout (Al Mukalla) Local Water Corporation & Al Shehr Utility

HADRAMOUT GOVERNORATE – GEOGRAPHIC LOCATION



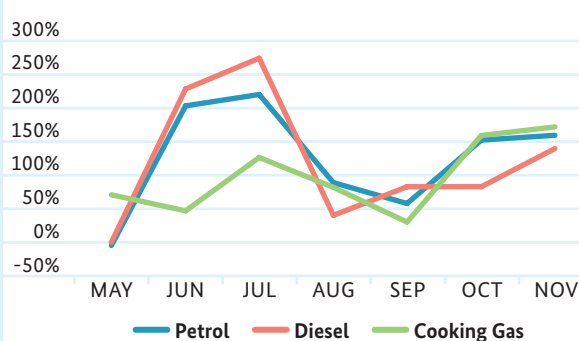
5.1 Background

Seat	Al-Mukalla
Area	191,737 km ²
Altitude	6 m
GPS Coordinates	Latitude: 14.540433 Longitude: 49.127197
Population & demographics	The total population is 1,329,000. Biggest Cities are Al-Mukalla (300,000 approx. pop.) and Al-Shehr (78,000 approx. pop.).
Population movement and displacement	Hadramaut hosts 97,066 displaced individuals.
Conflict implications on socio-economic situation	Availability and retail prices of essential food items were not as largely affected in Hadramaut as in other governorates. But fuel and gas prices have increased by about 160% prior crisis price level rising trend (WFP, November 2015).

Conflict impact on WASH sector

Prior crisis, about 589,194 people had no access to (improved) water sources (sanitation: 615,381).

Price changes from pre-crisis level (in %) in 2015



5.2 Hadramout (Al Mukalla) LC Corporate Data

The full and legal name is the Local Corporation for Water and Sanitation, Hadramout Governorate – Coastal Region. It was formed in 2001, is located in Al Mukalla with an associated Utility in Al Shehr. The current Director General of the corporation is Eng. Awad Salem Alqanzal. The designated focal person for GIZ interventions during the conflict is not known at this time.

5.2.1 LC Management Board

The current Management Board (MB) can be seen below:

<i>Dr. Adel Mohammed Bahumaid</i>	<i>Governor of Hadramout, Chairman</i>
<i>Mr. Awadh Abdullah Hatem</i>	<i>Deputy Governor of Hadramout for the Coastal Regions (assigned to head the Board's meetings)</i>
<i>Eng. Awadh Salem Al-Qanzal</i>	<i>Corporation General Manager, Board Member</i>
<i>Mr. Anwar Awadh Al-Ju'aidi</i>	<i>General Manager of Ministry of Finance Office, Board Member</i>
<i>Mr. Omar Salem Al-Ashwali</i>	<i>General Manager of Ministry of Planning and International Cooperation Office, Board Member</i>
<i>Mr. Fares Khaled Bin Hilabi</i>	<i>Private Sector Representative, Board Member</i>
<i>Mr. Abubakr Saeed Bahool</i>	<i>Subscribers' Representative, Board Member</i>
<i>Eng. Abdulkarim Saeed Bahakeem</i>	<i>General Manager of the General Authority for Water Resources, Board Member</i>
<i>Mr. Zaid Abdulrahman Al-Mu'alimi</i>	<i>Representative of the Ministry of Water and Environment, Board Member</i>
<i>Mr. Khaled Mohammed Bunami</i>	<i>Board's Technical Advisor</i>
<i>Mr. Fuad Ali Al-Mash'hoor</i>	<i>Board's Secretary</i>

The number of meetings conducted in 2014 was two and the first extraordinary meeting 2014 was on 29/1/2014 and the second meeting 2014 was on 17/11/2014, both in the General Manager's Office. No Management Board meeting has been held during the armed conflict and, therefore, all Board activities have stopped.

The Corporations immediate needs according to the Management Board are:

- Tools and Equipment
- Diesel Fuel

These needs are to be provided through the supporting bodies until the corporation is able to fulfill its obligations towards its subscribers and continue to provide water service to them.

5.2.2 LWC Management and Staff

The current management team consists of forty individual managers who last received their salaries in September 2015. Prior to the conflict there was a staff compliment of 1,229; seven hundred and forty nine working in technical sections; fifty-nine in finance; and two hundred and thirty two in Administration/Management. There is no organizational structure chart available.

5.2.3 LC Corporate Financial, Budget and Cost Data

Current cash flow (monthly) Jan 2015	10,000,000 YER
Post conflict cash flow requirement (monthly)	7,000,000 YER
Current Bank Balance (current account)/ average	15,000,000 YER
Balance required in a post-conflict situation	15,000,000 YER
Current balance of the depreciation account	37,000,000 YER
Average balance required in a post-conflict situation	37,000,000 YER
Total recurrent budget requested for 2014	3,485,000,000 YER
Total recurrent budget approved/received for 2014	2,732,000,000 YER
Total recurrent budget executed (spent) in 2014	3,470,000,000 YER
Of which from national budget	125,390,000 YER
Of which own resources	31,000,000 YER
Of which donor funded	0 YER
Of 2014 recurrent expenditure, how much spent for salaries	798,540,000 YER
Of 2014 recurrent expenditure, how much spent for others	21,512,000 YER
2014 rate of expenditure vs. approved recurrent budget	127%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	3,646,000,000 YER
Total recurrent budget approved/received for 2015	2,732,000,000 YER
Total recurrent budget executed (spent) in 2015	2,742,500,000 YER
Of which from national budget	0 YER
Of which own resources	0 YER
Of which donor funded	0 YER
Of 2015 recurrent expenditure, how much spent for salaries	619,499,000 YER
Of 2015 recurrent expenditure, how much spent for others	17,132,000 YER
2015 rate of expenditure vs. approved recurrent budget	100.0%

COST COVERAGE

Total expenditure 2014	3,470,184,000 YER
Total revenue 2014	2,757,233,000 YER
Operational loss 2014	712,951,000 YER
Collection efficiency (billed vs. received) 2014	86%
2014 average cost per m ³ water produced	138.9 YER
Actual 2014 average cost per m ³ water produced	1370.0 YER
2014 weighted average tariff per m ³ water sold	227.6 YER
Actual 2014 weighted average tariff per m ³ water sold	223.0 YER
Total expenditure Sept 2015	2,742,500,000 YER
Total revenue 2015	1,631,200,000 YER
Operational loss 2015	1,111,300,000 YER
Collection efficiency (billed vs. received) 2015	56%
2015 average cost per m ³ water produced	1471.1 YER
Actual 2015 average cost per m ³ water produced	151.0 YER
2015 weighted average tariff per m ³ water sold	2306.6 YER
Actual 2015 weighted average tariff per m ³ water sold	246.0 YER

5.3 Hadramout LC Structures & Buildings – Damage Status

5.3.1 Main Offices

The Hadramout (Al Mukalla) Local Corporation and the Al Shehr utility has indicated that its main office building and other structures have no damage to report.

5.3.2 Pumping Stations

No damage to report.

5.3.3 Water Storage

No damage to report.

5.4 Hadramout Water Production & Distribution Network – Data and Damage Status

5.4.1 Tube Wells and Well Heads

The Hadramout (Al Mukalla) LC and the Al Shehr utility are reporting no damage to well head equipment. The number of operating wells at the end of 2014 was 59 and in September 2015 59 were in operation.

5.4.2 Water Distribution Network

The Hadramout (Al Mukalla) LC and the Al Shehr utility has 1,194 km of distribution network piping all of which has not been damaged.

COVERAGE

Present urban population in areas of influence (No. of inhabitants)	605,833
Urban population connected to water network end of 2014	86%
Urban population connected to water network end of Sept 2015	86%

CONNECTIONS

No. of house connections planned 2014	2,500
No. of house connections produced 2014	2,462
Accumulated No. of house connections to end of Sept 2015	74,800

Water supplied through the distribution network is available 24 hours, 7 days per week. Water quality checks are conducted weekly and water samples are analysed at the Hadramout (Al Mukalla) LC laboratory.

5.4.3 Water Supply Data

Total water produced in 2014	24,989,498 m ³
Total water billed in 2014	15,248,298 m ³
Total water produced in September 2015	1,864,251 m ³
Total water billed in September 2015	1,888,984 m ³

5.4.4 Water Meters

The number of existing water meters at the end of 2014, which were either in the LC stores or installed, was 2,836. The total number of functioning water meters in the system at the end of 2014 was 72,397. By the end of September 2015 the number of existing meters had increased to 82,825 and the number of functioning water meters was 73,449 meters.

5.4.5 Non-Revenue Water (NRW)

Average NRW for 2014	39%
Average NRW for 2015	36%

5.5 Hadramout LC Wastewater System Data & Damage Status

Hadramout (Al Mukalla) LC is operating a wastewater system in which:

COVERAGE

Urban population connected to sewerage network end of 2014	44%
Urban population connected to sewerage network end of Sept 2015	44%

CONNECTIONS

No. of house connections planned for 2014	1,600
No. of house connections produced 2014	1,478
Accumulated No. of house connections at end of Sept 2015	37,802

5.5.1 Wastewater Ponds

Hadramout (Al Mukalla) LC has a wastewater treatment system (Bio-Oxidation Pond) that is designed to process 2,500 m³ of influent per day. Prior to the conflict the system was generating an effective inflow of 2,000 m³ with an outflow of approximately 1,800 m³ per day. These figures have remained basically the same during the period before and during the conflict.

The number of ponds is not known but the LC is recording them as being undamaged. In addition the associated electromechanical equipment at the pond sites is also undamaged.

5.5.2 Wastewater Collection Network

The network has collection piping and trunk mains of some 52 km which have not incurred any damage.

5.6 Hadramout LC Operations and Maintenance Vehicles – Damage Status

The LC reported no damage.

5.7 Hadramout LC Installation and Maintenance Tools & Equipment – Damage Status

The LC reported no damage.

5.8 Observations

The following observations are based on what was reported or not and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or improvement.

- It is stated that the Management Board did not meet during the conflict period and all board activities have stopped. Yet the Corporations immediate needs according to the Management Board are expressed as: Tools and Equipment, and Diesel Fuel.
- The report was missing an organization chart for Hadramout LC – a key piece of information when looking at institutional aspects of a corporation.
- It is not clear from the population served figure reported if this includes Ghayl Bawazir and Al Riyan utilities population.
- Forty managers working during the conflict in an LC and one small utility would seem somewhat excessive.
- In 2014 the difference between the average cost per m³ of water (138.9 YER) and the actual cost (1370.0 YER) is substantial. The same can be said for 2015 figures.
- The 2015 weighted average tariff per m³ water sold differs greatly from the actual 2015 weighted average tariff per m³ water sold; unlike 2014 figures.
- It is highly unlikely that the number of existing water meters at the end of 2014 totalled 2,836 units; when the number of functioning meters at the end of 2014 was 72,397.

5.9 Stage One Conclusions

The LC has sustained no damage to any of its capital assets; water production appears to be sufficient for conflict times and the number of connections; and O&M actions are appropriate. Wastewater services have been maintained.

5.10 Stage One Recommendations

- R1** LC and associated utilities requires a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that are working during the conflict period.
- R2** Maintain current level of water supply and sanitation services.

6.

Hajjah Local Corporation

HAJJAH GOVERNORATE – GEOGRAPHIC LOCATION



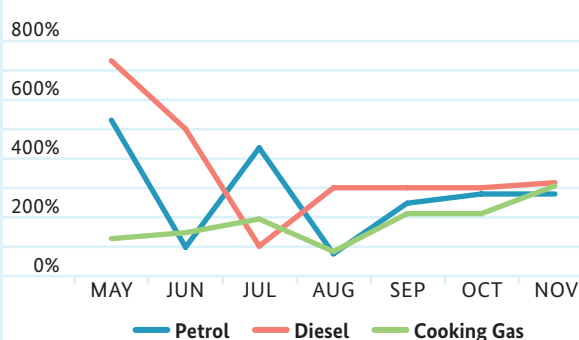
6.1 Background

Seat	Hajjah
Area	10,141 km ²
Altitude	1584 m (Hajjah City)
GPS Coordinates	Latitude: 15.70304 Longitude: 43.60393
Population & demographics	The governorate has a total population of 1,887,000 and a population density of 186/km ² . Biggest cities are Hajjah city, Abs, Harad, Al-Mahabisha.
Population movement and displacement	Approximately 172,019 people originating from Hajjah are displaced. Concomitantly, 228,453 displaced people are hosted in Hajjah.
Socio-economic situation	Hajjah witnessed a fluctuation of retail prices for key commodities since the war outbreak. Prices have stabilised during the last months for food items by about 60%, for fuel and gas by about 300% prior crisis price level (WFP, November 2015).

Conflict impact on WASH sector

Prior crisis, about 881,551 people had no access to (improved) water sources (sanitation: 920,731).

Price changes from pre-crisis level (in %) in 2015



6.2 Hajjah LC Corporate Data

The full and legal name is the Local Corporation for Water and Sanitation Hajjah, Hajjah Governorate. It was formed in 2005, is located in Hajjah city, and the current Director General of the corporation is Eng. Ameen Almogalis. The designated focal persons for GIZ interventions during the conflict are Eng. Ameen Almogalis, Ibrahim Saasaah and Ameen Hameed.

6.2.1 LC Management Board

The current Management Board members can be seen below:

<i>Brigadier Ali Ali Alqaisi</i>	<i>Governor of Hajjah, Chairman</i>
<i>Eng. Ameen Saif Mughalis</i>	<i>General Manager of the Water and Sanitation Local Corporation, Board Member</i>
<i>Mr. Ismail Yahya Al-Radhi</i>	<i>General Manager of Finance Office in Hajjah, Board Member</i>
<i>Mr. Mahmoud Yahya Al-Kuhlani</i>	<i>Representative of the Private Sector, Board Member</i>
<i>Mr. Mohammed Subar Al-Juma'I</i>	<i>Representative of the Beneficiaries, Board Member</i>
<i>Mr. Saleh Bahloul</i>	<i>Ministry of Water and Environment, Board Member</i>
<i>Mr. Abdulrahman Al-Milhani</i>	<i>General Manager of the Office of Planning, Board Member</i>
<i>Ms. Hanan Yahya Shaiban</i>	<i>Representative of the Women's Sector, Board Member</i>
<i>Mr. Ali Mohammed Al-Dul'ie</i>	<i>General Manager of the Environment Office, Board Member</i>
<i>Mr. Jamal Mohammed Al-Duwwah</i>	<i>Director of the Executive Unit for Human Resources, Board Member</i>

The Management Board met once in 2015 and there was no indication as to what was discussed or approved.

6.2.2 LC Management and Staff

The management team consists of sixteen individual managers who last received their salaries in August 2015. Prior to the conflict there was a staff compliment of 216; one hundred and thirty-one of which were in the technical section, thirty-two in the financial section, twelve in the customer service section and thirty-six in the administrative/management section. There was no organization chart and it is not clear how many staff and managers have been and are working during the armed conflict.

6.2.3 LC Corporate Financial, Budget and Cost Data

Current cash flow (monthly)	11,000,000 YER
Post conflict cash flow requirement (monthly)	47,500,000 YER
Current Bank Balance (current account)/average	0 YER
Balance required in a post-conflict situation	0 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	0 YER
Total recurrent budget requested for 2014	1,131,784,162 YER
Total recurrent budget approved/received for 2014	573,791,001 YER
Total recurrent budget executed (spent) in 2014	885,525,025 YER
Of which from national budget	57,278,673 YER
Of which own resources	828,246,352 YER
Of which donor funded	0 YER
Of 2014 recurrent expenditure, how much spent for salaries	288,395,291 YER
Of 2014 recurrent expenditure, how much spent for others	0 YER
2014 rate of expenditure vs. approved recurrent budget	193%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	1,161,347,882 YER
Total recurrent budget approved/received for 2015	573,791,001 YER
Total recurrent budget executed (spent) in 2015	466,000,342 YER
Of which from national budget	38,370,151 YER
Of which own resources	414,630,191 YER
Of which donor funded	15,000,000 YER
Of 2015 recurrent expenditure, how much spent for salaries	163,523,481 YER
Of 2015 recurrent expenditure, how much spent for others	0 YER
2015 rate of expenditure vs. approved recurrent budget	290.0%

COST COVERAGE

Total expenditure 2014	885,525,025 YER
Total revenue 2014	595,085,441 YER
Operational loss 2014	290,436,584 YER
Collection efficiency (billed vs. received) 2014	76%
2014 average cost per m ³ water produced	492.0 YER
Actual 2014 average cost per m ³ water produced	0 YER
2014 weighted average tariff per m ³ water sold	606.20 YER
Actual 2014 weighted average tariff per m ³ water sold	0 YER
Total expenditure Sept 2015	486,302,070 YER
Total revenue 2015	319,175,964 YER
Operational loss 2015	167,126,106 YER
Collection efficiency (billed vs received) 2015	68%
2015 average cost per m ³ water produced	629.60 YER
Actual 2015 average cost per m ³ water produced	0 YER
2015 weighted average tariff per m ³ water sold	766.50 YER
Actual 2015 weighted average tariff per m ³ water sold	0 YER

6.3 Hajjah LC and Branch Office Structures & Buildings – Damage Status

6.3.1 Main Offices

The Hajjah Local Corporation has three office buildings; the main office building in Hajjah, a branch office in Harad and another branch office in Abs.

The Main Office of the LC has not been detailed in terms of damage.

Harad branch reports that the main building had partial damage to the windows but the infrastructure has sustained heavy damages. The stores buildings are totally destroyed and the workshops have been looted in terms of equipment and tools.

Abs branch reports that their offices, workshops and infrastructure have been totally destroyed.

6.3.2 Pumping Stations

Harad branch pumping facilities incurred heavy damage, and infrastructure (pumps and electromechanical equipment) has been looted. The windows appear to have suffered only partial damage.

Abs branch reported no damage to pumping facilities.

6.3.3 Water Storage

Harad branch reports that the reservoir next to the LC building has been total destroyed.

Abs branch has indicated that reservoir number 1 has been totally destroyed and reservoir number 2 has received damage to 30% of the structure.

6.4 Hajjah LC and Branch Office Water Production & Distribution Network – Data and Damage Status

6.4.1 Tube Wells and Well Heads

The Hajjah LC is reporting no damage to its tube wells and well head equipment. The number of operating wells at the end of 2014 was 21 and in September 2015 this figure had dropped to 14.

6.4.2 Water Distribution Network

Hajjah LC has 213 km of distribution network piping.

Harad branch reports 2000 meters of main lines and 3000 meters of distribution lines have been totally destroyed.

Abs branch has 200 meters of distribution piping that is partially damaged.

HAJJAH LC COVERAGE

Present urban population in areas of influence (No. of inhabitants)	219,842
Urban population connected to water network end of 2014	65%
Urban population connected to water network end of Sept 2015	65%

HAJJAH LC CONNECTIONS

No. of house connections planned 2014	1,513
No. of house connections produced 2014	959
Accumulated No. of house connections to end of Sept 2015	15,932

Hajjah LC, Abs, Kahlan Afar, and Mabian branches have reported figures of less than once a week for frequency of water supplied. Harad reported less than 12 hours per day.

Water quality checks are conducted by Hajjah LC and all branches except Abs.

6.4.3 Water Supply Data

Total water produced in 2014	1,799,965 m ³
Total water billed in 2014	1,460,744 m ³
Total water produced in 2015	772,436 m ³
Total water billed in 2015	634,464 m ³

6.4.4 Water Meters

The number of existing water meters at the end of 2014 was 16,043 however only 14,743 were functioning. By the end of 2015 the number of existing meters had dropped to 10,737 of which only 9,080 are functioning.

6.4.5 Non-Revenue Water (NRW)

Average NRW for 2014	19%
Average NRW for 2015	18%

6.5 Hajjah LC and Branch Office Wastewater System Data & Damage Status

Hajjah LC and the Mabian branch are operating wastewater systems in which:

COVERAGE

Urban population connected to sewerage network end of 2014	11%
Urban population connected to sewerage network end of Sept 2015	11%

CONNECTIONS

No. of house connections planned for 2014	410
No. of house connections produced 2014	244
Accumulated No. of house connections at end of Sept 2015	4,079

6.5.1 Wastewater Ponds

Hajjah LC has a wastewater treatment system (Stabilisation Pond) that is designed to process 3,000 m³ of influent per day. Prior to the conflict the system was generating an effective inflow of 1,588 m³ with an outflow of approximately 1200–1300 m³ per day. These figures have remained basically the same during the period before and during the conflict.

The number of ponds is not known but the LC is recording them as being undamaged. In addition the associated electromechanical equipment at the pond sites is also free from damage.

6.5.2 Wastewater Collection Network

The network has collection piping and trunk mains of some 90 km which have not incurred any damage.

6.6 Hajjah LC Operations and Maintenance Vehicles – Damage Status

The LC reported no damage.

6.7 Hajjah LC Installation and Maintenance Tools & Equipment – Damage Status

The LC reported no damage.

6.8 Observations

The following observations are based on what was reported or not and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or improvement.

Management:

- The Management Board met once in 2015 and there was no indication as to what was discussed or approved.
- There was no organization chart and it is not clear how many staff and managers have been and are working during the armed conflict.
- Financial and budget data is missing some key data.
- The 2014 rate of expenditure vs. approved recurrent budget is exceptionally high.
- The Main Office of the LC has not been detailed in terms of internal damage;

Technical:

- The stores and workshop buildings in Abs and Harad branch offices were totally destroyed and the contents were either stolen or destroyed, however there is no indication as to what was stolen and what was destroyed;
- Harad branch reports that the Pumping Station and Reservoirs were stolen; this would seem difficult to do;
- Harad branch reports on the damage assessment form that there are no damages to Operational, Maintenance and Construction vehicles, but a separate paper submitted, lists item 1 Poclain and item 4 Maintenance Vehicle – it is assumed that they or were are damaged, destroyed or stolen after the main sheet was prepared;
- Abs reports that a reservoir is 30% damaged – but it is unknown if it is still useable?
- Big difference between the water supply frequency in one branch (less than 12 hours a day) and the remaining branches and LC (less than once a week);
- The LC and all but one branch report conducting water quality checks; the LC conducts checks twice weekly and the other branches it is annually – big differences;
- The number of functioning meters in 2015 appears to be 5600 less than the number of functioning meters at the end of 2014 and yet the NRW only dropped 1%;
- Overall NRW figures seem very low.
- The sewerage connection percentage compared to the number of water connections and overall population served appear to be misleading.

6.9 Stage One Conclusions

Although the current situation in terms of water supply to households is generally reasonable at once a week, the situation seems worse than it is. The main elements of destruction appear to be offices, stores and workshops with limited damage to the water and sewerage networks.

6.10 Stage One Recommendations

- R1** LC and its branch offices require a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that are working during the conflict period.
- R2** Provide Abs branch with temporary office space (caravan facilities), temporary stores and a workshop using used containers.
- R3** Provide basic furniture, equipment and computers to support operations in Abs and Harad branches.
- R4** Provide appropriate size and lengths of piping to replace damaged piping in Harad and Abs branch networks.
- R5** Provide basic tools for maintenance work.

7.

Al Hudaydah Local Corporation & Zabid, Al Mansouriah, Bajil and Bait Al Faqih Utilities

AL HUDAYDAH GOVERNORATE – GEOGRAPHIC LOCATION



7.1 Background

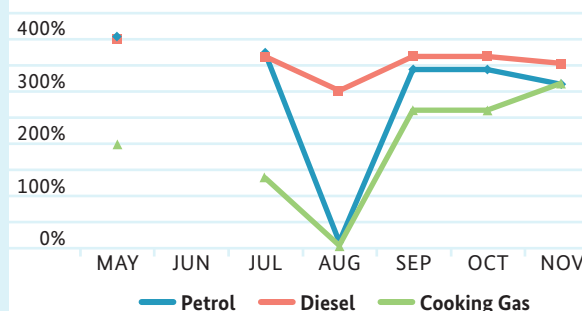
Seat	Al Hudaydah City
Area	17,509 km ²
Altitude	13 m (Al Hudaydah City)
GPS Coordinates	Latitude: 14.790912 Longitude: 42.970884
Population & demography	Al Hudaydah is the second most populated governorate with an estimated 11% of Yemen's total population (2,775,000). However, the population density of 159/km ² is relatively low. Al Hudaydah City is the third biggest city in Yemen with 600,000 inhabitants. Other big towns are Zabid, Bajil and Bei Al-Faqih.
Population movement and IDPs	In comparison to other governorates, Al Hudaydah did not witness much displacement. It had reached approximately 41,000 individuals in the peak of conflict and reduced 20,410 hosted IDPs in Nov 2015.
Socio-economic situation and conflict implications	Shortages of main commodities were common during the first months of the war but availability has improved since mid-2015. Retail prices for essential food items are about 70% higher, fuel and gas prices have risen but stabilised by about 300–350% of prior crisis prices level (WFP, November 2015).

Conflict impact on WASH sector

Prior crisis, about 1.312,650 people in the entire governorate had no access to (improved) water sources (sanitation: 1.370,990).

The water supply and sanitation services have been affected by conflict-related damage to WASH infrastructure. The lack of fuel set public water networks and water trucking services at imminent risk of stopping of services. Prices for commercial water trucking services are four times higher.

Price changes from pre-crisis level (in %) in 2015



7.2 Al Hudaydah LC Corporate Data

The full and legal name is the Al Hudaydah Water and Sanitation Local Corporation, Al Hudaydah Governorate. It was formed in 2001, is located in Al Hudaydah, and the current Director General of the corporation is Zaid Ali Al Kahlani. The designated focal person for GIZ interventions during the conflict is Eng. Taha Alzoreiky.

In addition to the LC, there are four utilities that have been included as part of the Al Hudaydah Governorate Water Sector Institutions. Each one is listed as a sub-component of the LC

7.2.1 LC Board of Directors (BoD)

Members of the BoD can be seen below:

Mr. Hasan Ahmed Al Haig	Governor of Al Hudaydah, Chairman
Mr. Abdullah Hajeb	Director of Finance in Al Hudaydah, Board Member
Mr. Mohammed Abdulrahman Aldobai	Director General of Planning and International Cooperation, Board Member
Eng. Omar Taha Alkamarani	Director General of Water Resources Authority Branch, Board Member.
Mr. Zaid Ali AlKohlani	Director General of the Local Corporation Board Member
Mr. Ahmed Mohammed Abdullah	Head of LC Procurement Dept Board Member
Mr. Abdul Jalil Thabet	Representative of the Private Sector, Board Member
Mr. Jamal al-Din al-Faqih	Representative of the Ministry of Water and Environment, Board Member

The BoD held only four meetings in 2014, at the headquarters of the province of Al Hudaydah. There have been no meetings convened during the armed conflict.

7.2.2 LC Management and Staff

The current management team consists of twenty individual managers who last received their salaries in August 2015. Prior to the conflict there was a staff complement of 808; two hundred and sixty one are working in the technical section; twenty seven in the financial section; two hundred and sixty-one in the customer service area, and fifty-eight in the Administration/Management section. There is no organizational chart available for the LC.

7.2.3 LC Corporate Financial, Budget and Cost Data

Current cash flow (monthly) Jan 2015	39,525,395 YER
Post conflict cash flow requirement (monthly)	193,000,000 YER
Current Bank Balance (current account)/ average	0 YER
Balance required in a post-conflict situation	0 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	0 YER
Total recurrent budget requested for 2014	2,674,263,000 YER
Total recurrent budget approved/received for 2014	1,769,570,000 YER
Total recurrent budget executed (spent) in 2014	1,914,656,001 YER
Of which from national budget	895,659,350 YER
Of which own resources	484,005,129 YER
Of which donor funded	534,991,525 YER
Of 2014 recurrent expenditure, how much spent for salaries	824,030,356 YER
Of 2014 recurrent expenditure, how much spent for others	1,091,696,395 YER
2014 rate of expenditure vs. approved recurrent budget	108%
What if any additional subsidies received from Ministry of Finance during the conflict situation	0 YER
Total recurrent budget requested for 2015	2,674,263,000 YER
Total recurrent budget approved/received for 2015	1,769,571,000 YER
Total recurrent budget executed (spent) up to Sept 2015	1,037,515,546 YER
Of which from national budget	0 YER
Of which own resources	1,037,515,546 YER
Of which donor funded	0 YER
Of 2015 recurrent expenditure, how much spent for salaries	601,263,717 YER
Of 2015 recurrent expenditure, how much spent for others	436,253,829 YER
2015 rate of expenditure vs. approved recurrent budget	58.63%

COST COVERAGE

Total expenditure 2014	1,835,246,851 YER
Total revenue 2014	1,776,007,423 YER
Operational loss 2014	59,239,428 YER
Collection efficiency (billed vs. received) 2014	73%
2014 average cost per m ³ water produced	130.9 YER
Actual 2014 average cost per m ³ water produced	253.0 YER
2014 weighted average tariff per m ³ water sold	202.2 YER
Actual 2014 weighted average tariff per m ³ water sold	167.0 YER
Total expenditure Sept 2015	1,255,991,292 YER
Total revenue 2015	1,227,651,099 YER
Operational loss 2015	28,340,193 YER
Collection efficiency (billed vs. received) 2015	31%
2015 average cost per m ³ water produced	92.7 YER
Actual 2015 average cost per m ³ water produced	263.0 YER
2015 weighted average tariff per m ³ water sold	205.8 YER
Actual 2015 weighted average tariff per m ³ water sold	223.0 YER

7.3 Al Hudaydah LC Structures & Buildings – Damage Status**7.3.1 Main Offices**

The Al Hudaydah Local Corporation has indicated that its main office building has no damage at all.

7.3.2 Water Pumping Stations

None of the pumping station buildings and perimeter fences and gates are damaged.

7.3.3 Water Storage

None of the water storage structure are damaged.

7.4 Al Hudaydah Water Production & Distribution Network – Data and Damage Status**7.4.1 Tube Wells and Well Heads**

The LC is reporting that none of the tube wells, well heads and associated equipment have incurred any damage. The number of operating wells at the end of 2014 was 30

and at the end of September 2015 the same number are in service.

7.4.2 Water Distribution Network

Al Hudaydah LC has 710 km of distribution network piping none of which seems to have been damaged and it has:

COVERAGE

Present urban population in areas of influence (No. of inhabitants)	612,942
Urban population connected to water network end of 2014	74%
Urban population connected to water network end of Sept 2015	75%

CONNECTIONS

No. of house connections planned 2014	2,000
No. of house connections connected in 2014	1,557
Accumulated No. of house connections to end of Sept 2015	66,255

Water supplied through the distribution network is available regularly between 12 and 14 hours per day.

Water quality checks are conducted daily at the Al Hudaydah LC laboratory.

7.4.3 Water Supply Data

Total water produced in 2014	14,015,785 m ³
Total water billed in 2014	9,074,637 m ³
Total water produced up to end of Sept 2015	13,542,109 m ³
Total water billed up to end of Sept 2015	6,103,180 m ³

7.4.4 Water Meters

Al Hudaydah LC reports that in 2014 they had in place 65,381 meters of which 42,491 were functioning. By September 2015 there were 65,549 meters in place but only 36,628 are functioning; and 28,921 are not working.

7.4.5 Non-Revenue Water (NRW)

Average NRW for 2014	35.3%
Average NRW for 2015	54.9%

7.5 Al Hudaydah LC Wastewater System Data & Damage Status

Al Hudaydah LC is operating a wastewater system in which:

COVERAGE

Urban population connected to sewerage network end of 2014	45%
Urban population connected to sewerage network end of Sept 2015	45%

CONNECTIONS

No. of house connections planned for 2014	1000
No. of house connections connected in 2014	699
Accumulated No. of house connections at end of Sept 2015	66,225

7.5.1 Wastewater Ponds

Al Hudaydah LC has a wastewater treatment system (Stabilisation Pond) that is designed to process 53,000 m³ of influent per day. Prior to the conflict the system was generating an effective inflow of 42,000 m³ with an outflow of approximately 40–41,000 m³ per day. These figures have remained basically the same during the period before the conflict. The number of ponds is not known; The associated electromechanical equipment at the pond sites has sustained partial damage and mechanical equipment for screening and sand removal has been totally destroyed.

7.5.2 Wastewater Collection Network

The network has incurred no damage at all. One pumping station No. 5 has been totally demolished.

7.6 Al Hudaydah LC Operations and Maintenance Vehicles – Damage Status

No damage to any O & M vehicles.

7.7 Al Hudaydah LC Installation and Maintenance Tools & Equipment – Damage Status

No damage to any of the Installation and Maintenance tools and equipment.

7.8 Zabid Utility Data

The full and legal name is the Utility for Water and Sanitation-Zabid, which is located in Al Hudaydah Governorate.

It was formed in 1998, is located in Zabid, and the current General Manager of the utility is Essam Abdullah Al Attiya. The designated focal person for GIZ interventions during the conflict has not been appointed.

7.8.1 Zabid Utility Management and Staff

The current management team consists of four individual managers who last received their salaries in July 2015. Prior to the conflict there was a staff compliment of 65; thirty-seven are in the technical section, fourteen are in administration/management, five in finance and nine in customer service.

7.8.2 Zabid Utility Financial, Budget and Cost Data

Current cash flow (monthly) Jan 2015	0 YER
Post conflict cash flow requirement (monthly)	0 YER
Current Bank Balance (current account)/average	0 YER
Balance required in a post-conflict situation	0 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	0 YER
Total recurrent budget requested for 2014	226,393,568 YER
Total recurrent budget approved/received for 2014	226,393,568 YER
Total recurrent budget executed (spent) in 2014	101,146,826 YER
Of which from national budget	0 YER
Of which own resources	0 YER
Of which donor funded	0 YER
Of 2014 recurrent expenditure, how much spent for salaries	0 YER
Of 2014 recurrent expenditure, how much spent for others	0 YER
2014 rate of expenditure vs. approved recurrent budget	45%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	268,796,618 YER
Total recurrent budget approved/received for 2015	226,393,568 YER
Total recurrent budget executed (spent) up to Sept 2015	84,342,649 YER
Of which from national budget	0 YER
Of which own resources	0 YER
Of which donor funded	0 YER
Of 2015 recurrent expenditure, how much spent for salaries	0 YER

Of 2015 recurrent expenditure, how much spent for others	0 YER
2015 rate of expenditure vs. approved recurrent budget	37.25%

COST COVERAGE

Total expenditure 2014	101,146,826 YER
Total revenue 2014	101,146,826 YER
Operational loss 2014	0 YER
Collection efficiency (billed vs. received) 2014	87%
2014 average cost per m ³ water produced	135.6 YER
Actual 2014 average cost per m ³ water produced	253.0 YER
2014 weighted average tariff per m ³ water sold	174.0 YER
Actual 2014 weighted average tariff per m ³ water sold	167.0 YER
Total expenditure Sept 2015	83,342,649 YER
Total revenue 2015	80,842,649 YER
Operational loss 2015	3,500,000 YER
Collection efficiency (billed vs. received) 2015	87%
2015 average cost per m ³ water produced	144.2 YER
Actual 2015 average cost per m ³ water produced	263.0 YER
2015 weighted average tariff per m ³ water sold	201.1 YER
Actual 2015 weighted average tariff per m ³ water sold	223.0 YER

7.8.3 Zabid Utility Structures and Buildings – Damage Status

Zabid Utility is reporting no damage to any of its main buildings and structures.

7.8.4 Zabid Utility Water Production and Distribution Network – Data and Damage Status

a) Tube Wells and Well Heads

The utility is reporting that none of the tube wells, well heads and associated equipment have not incurred any damage. The number of operating wells at the end of 2014 was 7 and at the end of September 2015 the number increased to 9.

b) Water Distribution Network

Zabid utility has 40 km of distribution network piping none of which seems to have been damaged.

COVERAGE

Present urban population in areas of influence (No. of inhabitants)	36,000
Urban population connected to water network end of 2014	99%
Urban population connected to water network end of Sept 2015	99%

CONNECTIONS

No. of house connections planned 2014	100
No. of house connections produced 2014	100
Accumulated No. of house connections to end of Sept 2015	5,636

Water supplied through the distribution network is available regularly between 12 and 14 hours per day.

Water quality checks are not conducted.

c) Water Supply Data

Total water produced in 2014	745,860 m ³
Total water billed in 2014	581,388 m ³
Total water produced up to the end of Sept 2015	585,100 m ³
Total water billed up to the end of Sept 2015	419,457 m ³

d) Water Meters

Zabid utility reports that in 2014 they had in place 5,515 meters of which 5,100 were functioning. By September 2015 there were 5,636 meters in place but only 5,036 are functioning.

e) Non-Revenue Water (NRW)

Average NRW for 2014	22.1%
Average NRW for 2015	28.3%

7.8.5 Zabid Utility Wastewater System Data & Damage Status

Zabid utility is operating a wastewater system in which:

COVERAGE

Urban population connected to sewerage network end of 2014	83%
Urban population connected to sewerage network end of Sept 2015	83%

CONNECTIONS

No. of house connections planned for 2014	100
No. of house connections produced 2014	50
Accumulated No. of house connections at end of Sept 2015	4,646

a) **Wastewater Ponds**

Zabid utility has a wastewater treatment system (Imhoff tank and Stabilisation Pond) where the design capacity is not known. Prior to the conflict the system was generating an effective inflow of 22,410 m³ with an outflow of approximately 20–21,000 m³ per day. The number of ponds is not known; None of the associated electromechanical equipment at the pond sites has incurred damage.

b) **Wastewater Collection Network**

The network which is 32 km in length has incurred no damage at all.

7.8.6 **Zabid Utility Operations and Maintenance Vehicles – Damage Status**

No damage to any O & M vehicles.

7.8.7 **Zabid Utility Installation and Maintenance Tools & Equipment – Damage Status**

No damage to any of the installation and maintenance tools and equipment.

7.9 **Al-Mansouriah Utility Corporate Data**

The full and legal name is the Water and Sanitation Utility of Al Mansouriah, which is located in Al Hudaydah Governorate. It was formed in 1998, is located in Al Mansouriah, and the current General Manager of the utility is Haitham Anwar Maagem. The designated focal persons for GIZ interventions during the conflict are Haitham Anwar Maagem and Ahmed Musa.

7.9.1 **Al-Mansouriah Utility Management and Staff**

The current management team consists of five individual managers who last received their salaries in July 2015. Prior to the conflict there was a staff complement of 32; eleven are in the technical section, six are in administration/management, seven in finance and six in customer service.

7.9.2 **Al-Mansouriah Utility Financial, Budget and Cost Data**

Current cash flow (monthly) Jan 2015	2,255,000 YER
Post conflict cash flow requirement (monthly)	7,791,666 YER
Current Bank Balance (current account)/average	0 YER
Balance required in a post-conflict situation	3,500,000 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	3,500,000 YER
Total recurrent budget requested for 2014	62,524,289 YER
Total recurrent budget approved/received for 2014	62,524,289 YER
Total recurrent budget executed (spent) in 2014	50,758,820 YER
Of which from national budget	0 YER
Of which own resources	50,758,820 YER
Of which donor funded	0 YER
Of 2014 recurrent expenditure, how much spent for salaries	24,229,741 YER
Of 2014 recurrent expenditure, how much spent for others	26,529,079 YER
2014 rate of expenditure vs. approved recurrent budget	81%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	62,420,789 YER
Total recurrent budget approved/received for 2015	62,524,289 YER
Total recurrent budget executed (spent) up to Sept 2015	24,053,018 YER
Of which from national budget	0 YER
Of which own resources	24,053,018 YER
Of which donor funded	0 YER
Of 2015 recurrent expenditure, how much spent for salaries	17,940,159 YER
Of 2015 recurrent expenditure, how much spent for others	6,112,804 YER
2015 rate of expenditure vs. approved recurrent budget	38.47%

COST COVERAGE

Total expenditure 2014	50,758,820 YER
Total revenue 2014	34,357,180 YER
Operational loss 2014	16,401,640 YER
Collection efficiency (billed vs. received) 2014	92%
2014 average cost per m ³ water produced	151.2 YER
Actual 2014 average cost per m ³ water produced	253.0 YER
2014 weighted average tariff per m ³ water sold	197.6 YER
Actual 2014 weighted average tariff per m ³ water sold	167.0 YER
Total expenditure Sept 2015	24,799,538 YER
Total revenue 2015	19,314,337 YER
Operational loss 2015	5,485,201 YER
Collection efficiency (billed vs. received) 2015	105%
2015 average cost per m ³ water produced	108.3 YER
Actual 2015 average cost per m ³ water produced	263.0 YER
2015 weighted average tariff per m ³ water sold	157.8 YER
Actual 2015 weighted average tariff per m ³ water sold	223.0 YER

7.9.3 Al-Mansouriah Utility Structures and Buildings – Damage Status

Al-Mansouriah Utility is reporting no damage to any of its main buildings and structures.

7.9.4 Al-Mansouriah Utility Water Production and Distribution Network – Data and Damage Status**a) Tube Wells and Well Heads**

The utility is reporting that none of the tube wells, well heads and associated electromechanical equipment has incurred any damage. The number of operating wells at the end of 2014 was 2 and at the end of September 2015 the number was the same.

b) Water Distribution Network

Al Mansouriah utility has 42 km of distribution network piping none of which seems to have been damaged.

COVERAGE

Present urban population in areas of influence (No. of inhabitants)	22,100
Urban population connected to water network end of 2014	95%
Urban population connected to water network end of Sept 2015	96%

CONNECTIONS

No. of house connections planned 2014	250
No. of house connections produced 2014	145
Accumulated No. of house connections to end of Sept 2015	2,825

Water supplied through the distribution network is available every other day and less than 6 hours each day.

Water quality checks are conducted but the laboratory location was not reported.

c) Water Supply Data

Total water produced in 2014	335,665 m ³
Total water billed in 2014	256,838 m ³
Total water produced in Sept 2015	228,970 m ³
Total water billed in Sept 2015	157,111 m ³

d) Water Meters

Al-Mansouriah utility reports that in 2014 they had in place 2,768 meters of which 1,960 were functioning. By September 2015 there were 2,825 meters in place but only 1,821 are functioning.

e) Non-Revenue Water (NRW)

Average NRW for 2014	23.5%
Average NRW for 2015	31.4%

7.9.5 Al-Mansouriah Utility Wastewater System Data & Damage Status

Al-Mansouriah utility is not operating a wastewater system.

7.9.6 Al-Mansouriah Utility Operations and Maintenance Vehicles Damage Status

No damage to any O & M vehicles.

7.9.7 Al Mansouriah Utility Installation and Maintenance Tools & Equipment – Damage Status

No damage to any of the installation and maintenance tools and equipment.

7.10 Bajil Utility Corporate Data

The full and legal name is the Water and Sanitation Utility – Bajil, in Al Hudaydah Governorate. It was formed in 1998, is located in Bajil, and the current General Manager of the corporation is Ahmed Mohammed Alhadheri. The designated focal person for GIZ interventions during the conflict is Abdulrahman al-Hasani.

7.10.1 Bajil Utility Management and Staff

The current management team consists of five individual managers who last received their salaries in November 2014. Prior to the conflict there was a staff complement of 81–70 of which are working during the armed conflict; twenty-four are in the technical section, eighteen are in administration/management, nine in finance and twenty-one in customer service.

7.10.2 Bajil Utility Financial, Budget and Cost Data

Current cash flow (monthly) Jan 2015	1,000,000 YER
Post conflict cash flow requirement (monthly)	12,000,000 YER
Current Bank Balance (current account)/ average	0 YER
Balance required in a post-conflict situation	48,887,930 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	30,000,000 YER
Total recurrent budget requested for 2014	586,852,158 YER
Total recurrent budget approved/received for 2014	586,852,158 YER
Total recurrent budget executed (spent) in 2014	77,150,000 YER
Of which from national budget	0 YER
Of which own resources	77,150,000 YER
Of which donor funded	32,400,000 YER
Of 2014 recurrent expenditure, how much spent for salaries	52,352,440 YER
Of 2014 recurrent expenditure, how much spent for others	1,000,000 YER
2014 rate of expenditure vs. approved recurrent budget	13%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	455,427,760 YER
Total recurrent budget approved/received for 2015	426,010,000 YER
Total recurrent budget executed (spent) up to Sept 2015	32,810,700 YER
Of which from national budget	0 YER
Of which own resources	32,810,700 YER
Of which donor funded	0 YER
Of 2015 recurrent expenditure, how much spent for salaries	0 YER
Of 2015 recurrent expenditure, how much spent for others	600,000 YER
2015 rate of expenditure vs. approved recurrent budget	7.70%

COST COVERAGE

Total expenditure 2014	77,150,000 YER
Total revenue 2014	77,156,326 YER
Operational loss 2014	6,326 YER
Collection efficiency (billed vs. received) 2014	83%
2014 average cost per m ³ water produced	120.60 YER
Actual 2014 average cost per m ³ water produced	253.0 YER
2014 weighted average tariff per m ³ water sold	154.20 YER
Actual 2014 weighted average tariff per m ³ water sold	167.0 YER
Total expenditure Sept 2015	32,810,507 YER
Total revenue 2015	32,810,705 YER
Operational profit/loss 2015	198 YER
Collection efficiency (billed vs. received) 2015	56%
2015 average cost per m ³ water produced	138.40 YER
Actual 2015 average cost per m ³ water produced	263.0 YER
2015 weighted average tariff per m ³ water sold	157.30 YER
Actual 2015 weighted average tariff per m ³ water sold	223.0 YER

7.10.3 Bajil Utility Structures and Buildings – Damage Status

Bajil Utility is reporting no damage to any of its main buildings and structures.

7.10.4 Bajil Utility Water Production and Distribution Network – Data and Damage Status

f) Tube Wells and Well Heads

The utility is reporting that none of the tube wells, well heads and associated equipment have incurred any damage. The number of operating wells at the end of 2014 was 6 and at the end of September 2015 the number decreased to 2.

g) Water Distribution Network

The utility has 163 km of distribution network piping none of which seems to have been damaged.

COVERAGE

Present urban population in areas of influence (No. of inhabitants)	120,000
Urban population connected to water network end of 2014	60%
Urban population connected to water network end of Sept 2015	80%

CONNECTIONS

No. of house connections planned 2014	400
No. of house connections connected in 2014	228
Accumulated No. of house connections to end of Sept 2015	8,586

Water supplied through the distribution network is available less than once per week.

Water quality checks are conducted annually but the laboratory location has not been reported.

h) Water Supply Data

Total water produced in 2014	639,700 m ³
Total water billed in 2014	500,290 m ³
Total water produced up to and including Sept 2015	237,000 m ³
Total water billed up to and including Sept 2015	208,600 m ³

i) Water Meters

Bajil utility reports that in 2014 they had in place 8,521 meters of which 8,521 were functioning. By September 2015 there were 8,590 meters in place and 8,590 are functioning.

j) Non-Revenue Water (NRW)

Average NRW for 2014	21.8%
Average NRW for 2015	12%

7.10.5 Bajil Utility Wastewater System Data & Damage Status

The utility is operating a wastewater system in which:

COVERAGE

Urban population connected to sewerage network end of 2014	60%
Urban population connected to sewerage network end of Sept 2015	70%

CONNECTIONS

No. of house connections planned for 2014	400
No. of house connections produced 2014	228
Accumulated No. of house connections at end of Sept 2015	5,631

a) Wastewater Ponds

Bajil utility has a wastewater treatment system (Stabilisation Pond) where the design capacity is 2,700 m³. Prior to the conflict the system was generating an effective inflow of 1,160 m³ per day with an outflow of approximately 1,000 m³ per day. The number of ponds is not known; None of the associated electromechanical equipment at the pond sites has incurred damage.

b) Wastewater Collection Network

The network which is 140 km in length has incurred no damage at all.

7.10.6 Bajil Utility Operations and Maintenance Vehicles – Damage Status

No damage to any O & M vehicles.

7.10.7 Bajil Utility Installation and Maintenance Tools & Equipment – Damage Status

No damage to any of the installation and maintenance tools and equipment.

7.11 Bait Al-Faqih Utility Corporate Data

The full and legal name is the Water and Sanitation Utility – Bait Al-Faqih, in Al Hudaydah Governorate. It was formed in 1998, is located in Bait Al-Faqih, and the current General Manager of the corporation is Eng. Ahmed Saeed Al Hemyari. The designated focal person for GIZ interventions during the conflict has not been appointed.

7.11.1 Bait Al-Faqih Utility Management and Staff

The current management team consists of three individual managers who last received their salaries in May 2015. Prior to the conflict there was a staff complement of 76 of which 45 are working during the armed conflict; twenty-three are in the technical section, twelve are in administration/management, eight in finance and two in customer service.

7.11.2 Bait Al-Faqih Utility Financial, Budget and Cost Data

Current cash flow (monthly) Jan 2015	0 YER
Post conflict cash flow requirement (monthly)	0 YER
Current Bank Balance (current account)/ average	0 YER
Balance required in a post-conflict situation	0 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	0 YER
Total recurrent budget requested for 2014	307,898,336 YER
Total recurrent budget approved/received for 2014	307,898,336 YER
Total recurrent budget executed (spent) in 2014	277,735,095 YER
Of which from national budget	0 YER
Of which own resources	277,735,095 YER
Of which donor funded	3,608,775 YER
Of 2014 recurrent expenditure, how much spent for salaries	64,226,732 YER
Of 2014 recurrent expenditure, how much spent for others	78,696,047 YER
2014 rate of expenditure vs. approved recurrent budget	90%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	315,706,657 YER
Total recurrent budget approved/received for 2015	307,898,336 YER
Total recurrent budget executed (spent) up to Sept 2015	53,077,266 YER
Of which from national budget	0 YER
Of which own resources	0 YER
Of which donor funded	0 YER
Of 2015 recurrent expenditure, how much spent for salaries	16,550,125 YER
Of 2015 recurrent expenditure, how much spent for others	36,527,141 YER
2015 rate of expenditure vs. approved recurrent budget	17.24%

COST COVERAGE

Total expenditure 2014	137,735,095 YER
Total revenue 2014	116,104,649 YER
Operational loss 2014	21,630,446 YER
Collection efficiency (billed vs. received) 2014	83%
2014 average cost per m ³ water produced	101.5 YER
Actual 2014 average cost per m ³ water produced	253.0 YER
2014 weighted average tariff per m ³ water sold	104.6 YER
Actual 2014 weighted average tariff per m ³ water sold	167.0 YER
Total expenditure Sept 2015	53,077,266 YER
Total revenue 2015	53,481,236 YER
Operational loss 2015	403,970 YER
Collection efficiency (billed vs. received) 2015	0%
2015 average cost per m ³ water produced	76.5 YER
Actual 2015 average cost per m ³ water produced	263.0 YER
2015 weighted average tariff per m ³ water sold	138.6 YER
Actual 2015 weighted average tariff per m ³ water sold	223.0 YER

7.11.3 Bait Al-Faqih Utility Structures and Buildings – Damage Status

Bait Al-Faqih Utility is reporting no damage to any of its main buildings and structures.

7.11.4 Bait Al-Faqih Utility Water Production and Distribution Network – Data and Damage Status

a) Tube Wells and Well Heads

The utility is reporting that none of the tube wells, well heads and associated equipment has incurred any damage. The number of operating wells at the end of 2014 was 4 and at the end of September 2015 the number decreased to 3.

b) Water Distribution Network

The utility has 56 km of distribution network piping none of which seems to have been damaged.

COVERAGE

Present urban population in areas of influence (No. of inhabitants)	80,000
Urban population connected to water network end of 2014	85%
Urban population connected to water network end of Sept 2015	87%

CONNECTIONS

No. of house connections planned 2014	1,060
No. of house connections produced 2014	339
Accumulated No. of house connections to end of Sept 2015	8,580

Water supplied through the distribution network is regularly available 12 to 14 hours per day.

Information on water quality checks was not reported.

c) Water Supply Data

Total water produced in 2014	1,356,798 m ³
Total water billed in 2014	1,316,924 m ³
Total water produced up to and including Sept 2015	693,150 m ³
Total water billed up to and including Sept 2015	382,917 m ³

d) Water Meters

Bait Al-Faqih utility reports that in 2014 they had in place 8,440 meters of which 6,280 were functioning. By September 2015 there were 8,580 meters in place and 6,700 are functioning.

e) Non-Revenue Water (NRW)

Average NRW for 2014	2.9%
Average NRW for 2015	44.8%

7.11.5 Bait Al-Faqih Utility Wastewater System Data & Damage Status

The utility is stating that it is operating a wastewater system in which:

COVERAGE

Urban population connected to sewerage network end of 2014	85%
Urban population connected to sewerage network end of Sept 2015	81%

CONNECTIONS

No. of house connections planned for 2014	7,500
No. of house connections produced 2014	321
Accumulated No. of house connections at end of Sept 2015	6,653

a) **Wastewater Ponds**

Bait Al-Faqih utility has a wastewater treatment system however there were no details reported.

c) **Wastewater Collection Network**

No network details have been provided.

7.11.6 **Bait Al-Faqih Utility Operations and Maintenance Vehicles – Damage Status**

No damage to any O & M vehicles.

7.11.7 **Bait Al-Faqih Utility Installation and Maintenance Tools & Equipment – Damage Status**

No damage to any of the Installation and Maintenance tools.

7.12 Observations

The following observations are based on what was reported or not, and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or improvement.

Management Observations:

- The report was missing an organization chart for Hudaydah LC, Zabid, Bajil, Al Mansouriah and Bait Al Faqih utilities – a key piece of information when looking at institutional aspects of a corporation or utility.
- There are key financial and budgetary figures for Zabid and Bait Al-Faqih utilities that are not shown and in some cases are considered unreliable.
- Al Mansouriah LC cash flow amount indicated for a monthly post-conflict situation is shown as three times that of the cash flow in January 2015. Bajil has a similar case where the post conflict cash flow is 12 times the January 2015 figure of 1million Yemeni rials.
- Bajil managers last received their salaries in November 2014 when other utilities were addressed in 2015.

Technical Observations:

- Water supply data for Hudaydah LC shows that 14,015,785 (m³) was produced and 4,941,148 (m³) was not billed for. In 2015 for the first nine months 13,542,109 (m³) was produced and 7,438,929 was not billed. This in a system that has no damage and is supplying water 12 hours a day. Hence NRW is extremely high – 35.3% in 2014 and 54.9 in 2015.
- In 2015 Hudaydah LC reported that there were 65,549 water meter in place but 28,921 of them are not functioning.
- Bajil utility has reported that it conducts water checks annually but the location of the laboratory where the water is tested is not disclosed.
- Bajil utility reports that in 2014 60% of the population was connected to the water network and in 2015 this number increased to 80% of the population. However it also reports that it only installed 69 additional water meters in 2015. A 20% increase in population (24,000) does not translate to an additional 69 meters.
- Bait Al-Faqih utility has not disclosed any details on Water Quality checks.
- The average NRW figure for 2014 at Bait Al-Faqih seems to be exceptionally low (2.9%) when the 2015 figure is very high (44.8%).
- The design capacity for the Hudaydah LC Wastewater Treatment Ponds is 53,000 (m³) and currently the influent is running at approximately at 42,000 (m³). This is 79% of design capacity and it's achieved with only 45% of the population connected to the sewerage collection network.
- Zabid WWTP design capacity was not disclosed neither was the number of ponds involved.
- Bait Al-Faqih utility declares that it has a WWTP and a sewerage collection network however there are no details available.

7.13 Stage One Conclusion

The Hudaydah LC has incurred some damage to equipment in its wastewater treatment plant and pumping station. Water production appears to be sufficient for the number of connections; and O & M actions are very limited in some cases but mostly they keep the water supplies moving. It is also noted that prior to the assessment study, Hudaydah LC had requested help in cleaning sewer pipes. It would seem that this request is still valid.

7.14 Stage One Recommendations

- R1** LC and associated utilities require a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that are working during the conflict period.
- R2** Repair the partial damage to Sewage Pump Station No. 5 in Al Hudaydah LC.
- R3** Replace two completely destroyed operating cards in electromechanical equipment at the Hudaydah WWTP.
- R4** Repair mechanical equipment for screening and sand removal at the Hudaydah WWTP.
- R5** Provide the tools and equipment required to clean an identified length of Main Line sewer pipes.

8.

Ibb Local Corporation

IBB GOVERNORATE – GEOGRAPHIC LOCATION



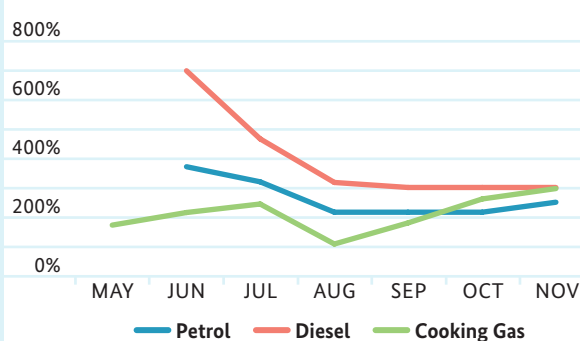
8.1 Background

Seat	Ibb City
Area	6,484 km ²
Altitude	1956 m (Ibb City)
GPS Coordinates	Latitude: 13.972093 Longitude: 44.162534
Population & demography	The governorate has a total population of 7,711,000 and a population density of 418/km ² . Ibb City with 373,673 inhabitants is the fifth biggest city in Yemen. Other big towns are Dhi Al-Sufai and Yarim.
Population movement and displacement	The number of displaced people hosted in Ibb increased to 129,810 in Nov. 2015 due to continuing fighting in Taiz.
Socio-economic situation	Retail prices for essential food items are about 50% higher, fuel and gas prices have stabilised by about 250–300% of prior crisis price level (WFP, November 2015).

Conflict impact on WASH sector

Prior crisis, about 1.196,550 people had no access to (improved) water sources (sanitation: 1.249,370).

Price changes from pre-crisis level (in %) in 2015



8.2 Ibb LC Corporate Data

The full and legal name is the IBB Water and Sanitation Local Corporation, Ibb, Ibb Governorate. It was formed in 2001, is located in Ibb city, and the current Director General of the corporation is Eng. Abdualrqueeb Abdulrahman Al Charmani. The designated focal person for GIZ interventions during the conflict is Eng. Abdualrqueeb Abdulrahman Al Charmani.

8.2.1 LC Board of Directors (BOD)

The current Board of Directors consists of the following members:

Mr. Abdulwahid Salah	Governor, Chairman of the Board
Mr. Rami Aljomaai	Governor Secretary, Board Member
Mr. Abdualrqueeb Al Charmani	General Manager of the LC, Board Member
Mr. Kamal Al-Harethy	Director of Planning, Board Member
Mr. Ali Mohammad Al-Saeedi	Representative of the Citizens, Board Member
Mr. Bandar Alfaeiq	Financial Director, Board Member
Mr. Faisal Abdullah Al-Baadani	Ministry Delegate, Board Member
Mr. Qassem Al-Mansoob	Representative of the Service Sector, Board Member
Mr. Fahd Alsofyani	Representative of the Water Resource Authority, Board Member
Mr. Faisal al-Saeedi	Managing Director of the LC, Board Member

The BoD held three meetings before the conflict, dates were not specified, and the discussions focused on the need for electromechanical equipment and support materials for the continuous operation and maintenance of the water supply system.

8.2.2 LC Management and Staff

The management team consists of 9 individual managers who last received their salaries in September 2015. Prior to the conflict there was a staff compliment of 246; seventy-two of which were in the technical section, twenty-three in the financial section, forty-three in the customer service section and forty-eight in the administrative/management section. It is not clear how many staff and managers have been and are working during the armed conflict. The Ibb LC organisation chart can be seen on the next page.

8.2.3 LC Corporate Financial, Budget and Cost Data

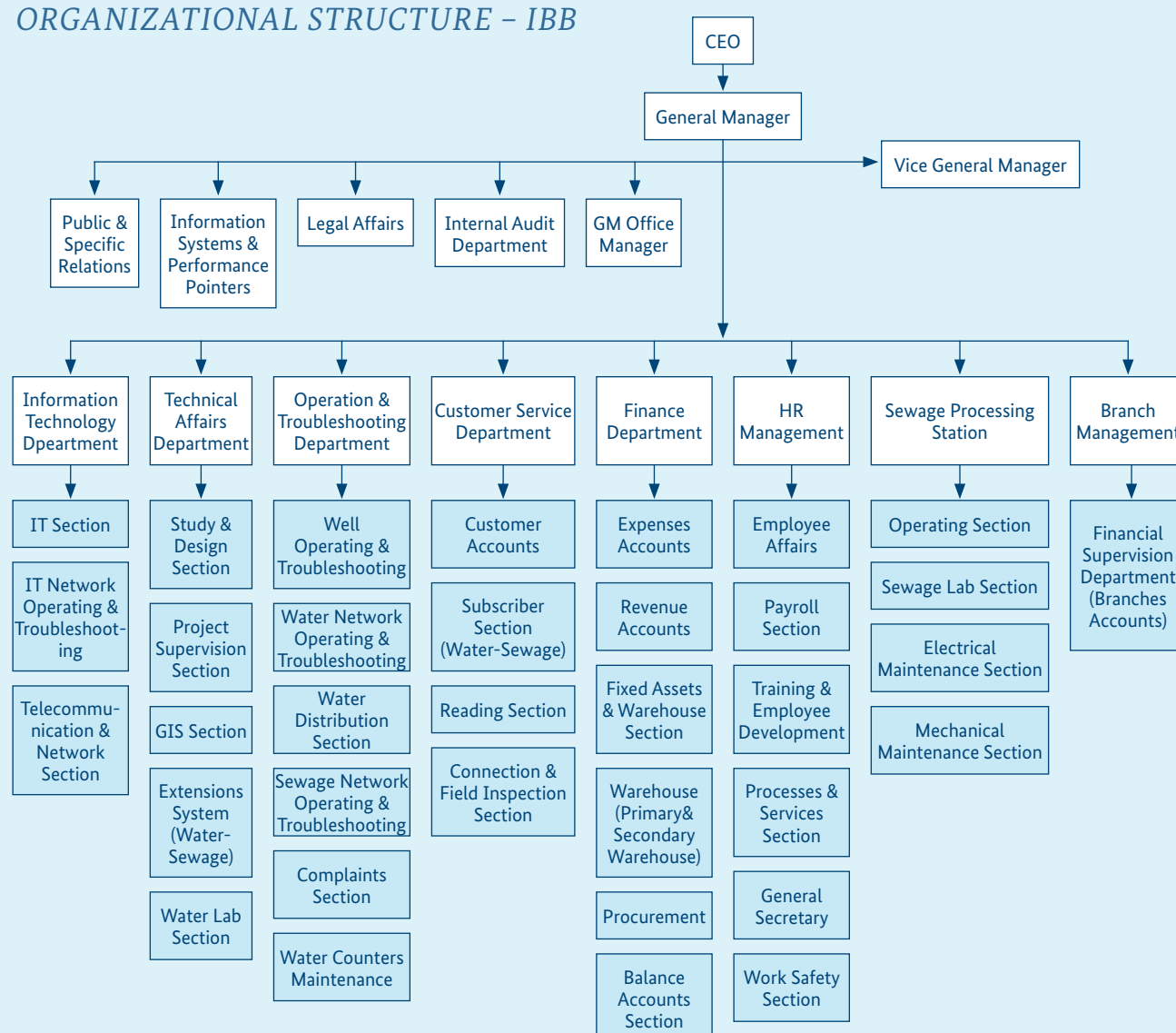
Current cash flow (monthly)	53,124,529 YER
Post conflict cash flow requirement (monthly)	101,837,494 YER
Current Bank Balance (current account)/ average	48,907,770 YER
Balance required in a post-conflict situation	78,000,000 YER
Current balance of the depreciation account	274,000,000 YER
Average balance required in a post-conflict situation	300,000,000 YER
Total recurrent budget requested for 2014	3,935,273,600 YER
Total recurrent budget approved/received for 2014	1,311,845,000 YER
Total recurrent budget executed (spent) in 2014	2,287,361,314 YER
Of which from national budget	0 YER
Of which own resources	2,285,761,314 YER
Of which donor funded	1,600,000 YER
Of 2014 recurrent expenditure, how much spent for salaries	357,411,165 YER
Of 2014 recurrent expenditure, how much spent for others	598,404,387 YER
2014 rate of expenditure vs. approved recurrent budget	174%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	5,994,340,680 YER
Total recurrent budget approved/received for 2015	1,311,845,000 YER
Total recurrent budget executed (spent) until August 2015	922,527,039 YER
Of which from national budget	0 YER
Of which own resources	922,527,039 YER
Of which donor funded	0 YER
Of 2015 recurrent expenditure, how much spent for salaries	46,550,050 YER
Of 2015 recurrent expenditure, how much spent for others	40,119,895 YER
2015 rate of expenditure vs. approved recurrent budget	70.32%

COST COVERAGE

Total expenditure 2014	955,815,552 YER
Total revenue 2014	895,235,938 YER
Operational loss 2014	60,579,614 YER
Collection efficiency (billed vs. received) 2014	92%
2014 average cost per m ³ water produced	178.7 YER
Actual 2014 average cost per m ³ water produced	253.0 YER
2014 weighted average tariff per m ³ water sold	235.8 YER
Actual 2014 weighted average tariff per m ³ water sold	167.0 YER
Total expenditure up to August 2015	680,097,836 YER
Total revenue up to August 2015	689,713,209 YER
Operational profit up to August 2015	9,615,373 YER

Collection efficiency (billed vs received) 2015	78%
2015 average cost per m ³ water produced	177.3 YER
Actual 2015 average cost per m ³ water produced	263.0 YER
2015 weighted average tariff per m ³ water sold	233.3 YER
Actual 2015 weighted average tariff per m ³ water sold	223.0 YER

ORGANIZATIONAL STRUCTURE – IBB



8.3 Ibb LC Structures and Buildings – Damage Status

8.3.1 Main Offices

The Ibb LC is reporting no damage to its main buildings including stores and workshops.

8.3.2 Pumping Stations

Ibb LC is reporting no damage to pumping facilities.

8.3.3 Water Storage

Ibb LC is reporting no damage to any of its water storage structures.

8.4 Ibb LC Water Production and Distribution Network – Data & Damage Status

8.4.1 Tube Wells and Well Heads

The Ibb LC is reporting no damage to well head equipment and its tube wells. The number of operating wells at the end of 2014 was 23 and in September 2015 23 were still being operated.

8.4.2 Water Distribution network

Ibb LC has 251 km of main line and distribution network piping.

In terms of main line piping damage 269 meters of 4 inch ductile iron pipe and 330 meters of 3 inch ductile iron piping has been totally destroyed.

In terms of distribution piping damage 360 meters of 3 inch ductile pipe and 360 meters of 2 inch ductile iron pipe has been totally destroyed.

Two generators and four electrical transformers are reported to be totally destroyed.

IBB LC COVERAGE

Present urban population in areas of influence (No. of inhabitants)	373,673
Urban population connected to water network end of 2014	71%
Urban population connected to water network end of Sept 2015	77%

IBB LC CONNECTIONS

No. of house connections planned 2014	1,000
No. of house connections produced 2014	781
Accumulated No. of house connections to end of Sept 2015	26,115

Ibb LC reported that water was supplied once per week before the conflict and now once every two weeks. Water quality checks are conducted once a day and they are performed in the Ibb LC laboratory.

8.4.3 Water Supply Data

Total water produced in 2014	5,347,606 m ³
Total water billed in 2014	4,053,586 m ³
Total water produced in 2015	3,835,527 m ³
Total water billed in 2015	2,915,059 m ³

8.4.4 Water Meters

The number of existing water meters at the end of 2014 was 24,161 and the same number were functioning at the end of 2014. By the end of September 2015 the number of existing meters was 26,115 and the same number were actually functioning.

8.4.5 Non-Revenue Water (NRW)

Average NRW for 2014	24.2%
Average NRW for 2015	24%

8.5 Ibb LC Wastewater System Data & Damage Status

Ibb LC is operating a wastewater system which has:

COVERAGE

Urban population connected to sewerage network end of 2014	73%
Urban population connected to sewerage network end of Sept 2015	60%
Connections	
No. of house connections planned for 2014	1,940
No. of house connections produced 2014	1,641
Accumulated No. of house connections at end of Sept 2015	21,866

8.5.1 Wastewater Treatment Plant (WWTP)

Ibb LC is operating an Activated Sludge – Extended Aeration process in its WWTP.

The WWTP is designed to process 5,300 m³ of influent per day. Currently the influent is 11,712 m³ per day with an approx. 9,500 m³ of effluent discharged per day. The Ibb LC is reporting no damage to its WWTP or its infrastructure.

8.5.2 Wastewater Collection Network

The network has 173 km of collection piping and trunk mains. At this time the LC is reporting no damage.

8.6 Ibb LC Operations and Maintenance Vehicles – Damage Status

One pick-up vehicle has been totally destroyed.

8.7 Ibb LC Installation and Maintenance Tools & Equipment – Damage Status

One compressor has been totally destroyed.

8.8 Observations

The following observations are based on what was reported or not and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or improvement.

- A very positive indicator is referenced in that the BOD met three times before the conflict and identified issues such as electromechanical equipment and support materials for the continuous operation and maintenance of the water supply.
- The assessment data is not indicating how many managers and staff are working during the conflict. This is a key indicator when attempting to gain support for financial incentives and/or salaries for workers who have and are working during the conflict period.
- Ibb LC have included an organisational chart.
- Ibb LC actually showed a profit in the period up to September 2015.
- The number of functioning water meters has remained constant during normal operating conditions and during the conflict.

8.9 Stage One Conclusion

The LC has sustained very little damage to its capital assets with the exception of generators, electrical transformers and some main and distribution network piping; water production appears to be consistent during conflict times although frequency could increase a little; and O & M actions are appropriate.

8.10 Stage One Recommendations

- R1** LC requires a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that are working during the conflict period.
- R2** Procure two new generators (150kW);
- R3** Procure four electrical transformers (100 kVA);
- R4** Procure one compressor;
- R5** Procure 270 meters 4" ductile iron pipe and 330 meters of 3" ductile iron pipe;
- R6** Procure 360 meters 3" galvanized iron pipe and 360 meters 2" galvanized iron pipe.

9.

Lahij Local Corporation

LAHIJ GOVERNORATE – GEOGRAPHIC LOCATION



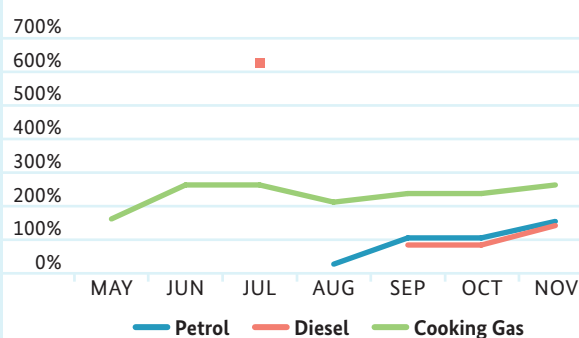
9.1 Background

Seat	Al Houta
Area	15,210 km ²
Altitude	122 m (Al Houta)
GPS Coordinates	Latitude: 13.048028 Longitude: 44.888818
Population & demographics	The governorate of Lahij has a total population of 926,000 and a population density of 61/km ² . 90% of the population lives in rural areas.
Humanitarian situation	Since the beginning of open-armed conflict, Lahij as neighbouring governorate to the hotspots of fighting, Aden and Taizz, has been seriously affected.
Population movement and displacement	The number of displaced people hosted in Lahij increased to 44,886 in Nov 2015 due to continuing fighting in the neighbouring governorate of Taizz. Concomitantly, 95,379 displaced people originate from Lahij governorate itself.
Socio-economic situation	Shortages of main commodities are common but availability has improved since mid-2015. Retail prices have increased to prior crisis price level. In particular, the price of fuel and gas have risen by 150–250%.

Conflict impact on WASH sector

Prior crisis, about 412,650 people had no access to (improved) water sources (sanitation: 430,990).

Price changes from pre-crisis level (in %) in 2015



9.2 Lahij LC Corporate Data

The full and legal name is the Local Corporation for Water & Sanitation, Lahij Governorate. It was formed in 2006, is located in Al Houda, and the current Director General of the corporation is *Eng. Kabeel Saleh Ali*. The designated focal person for GIZ interventions during the conflict is *Talal Abdulgalil Radman*.

9.2.1 LC Board of Directors (BoD)

At the time of writing the report, the names and positions of board members was not known. During the current armed conflict the BoD did not meet.

9.2.2 LC Management and Staff

The management team consists of eight individual managers who last received their salaries in April 2015. Prior to the conflict there was a staff compliment of 323; fifty five of which were in technical areas. Currently there are a total of 30 persons who have been working, 8 of which are managers and the remaining 22 are working on water supply tasks. There was no organization chart provided.

9.2.3 LC Corporate Financial, Budget and Cost Data

Current cash flow (monthly)	0 YER
Post conflict cash flow requirement (monthly)	638,000,000 YER
Current Bank Balance (current account)/ average	20,000,000 YER
Balance required in a post-conflict situation	18,000,000 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	–
Total recurrent budget requested for 2014	538,000,000 YER
Total recurrent budget approved/received for 2014	418,000,000 YER
Total recurrent budget executed (spent) in 2014	517,000,000 YER
Of which from national budget	94,200,000 YER
Of which own resources	–
Of which donor funded	–
Of 2014 recurrent expenditure, how much spent for salaries	240,000,000 YER
Of 2014 recurrent expenditure, how much spent for others (specify)	–
2014 rate of expenditure vs. approved recurrent budget	124%
What if any additional subsidies received from Ministry of Finance	0 YER
during conflict situation	50,000,000 YER
Total recurrent budget requested for 2015	638,000,000 YER
Total recurrent budget approved/received for 2015	418,000,000 YER
Total recurrent budget executed (spent) in 2015	155,250,145 YER
Of which from national budget	–
Of which own resources	5,000,000 YER
Of which donor funded	–
Of 2015 recurrent expenditure, how much spent for salaries	–
Of 2015 recurrent expenditure, how much spent for others	–
2015 rate of expenditure vs. approved recurrent budget	37.14%

COST COVERAGE

Total expenditure 2014	232,184,958 YER
Total revenue 2014	192,000,000 YER
Operational loss 2014	36,250,000 YER
Collection efficiency (billed vs. received) 2014	20%
2014 average cost per m ³ water produced	50.3 YER
Actual 2014 average cost per m ³ water produced	125.0 YER
2014 weighted average tariff per m ³ water sold	77.3 YER
Actual 2014 weighted average tariff per m ³ water sold	50.0 YER
Total expenditure Sept 2015	155,250,145 YER
Total revenue 2015	6,780,132 YER
Operational loss 2015	–
Collection efficiency (billed vs. received) 2015	
2015 average cost per m ³ water produced	672.0 YER
Actual 2015 average cost per m ³ water produced	–
2015 weighted average tariff per m ³ water sold	–
Actual 2015 weighted average tariff per m ³ water sold	50.0 YER

9.3 Lahij LC Structures & Buildings – Damage Status

The corporation has indicated that its main structures and buildings are in various degrees of destruction due to the ongoing armed conflict. No one building or structure has been completely destroyed, but the extent of the damage would render them non-functional.

9.3.1 Main Offices

Lahij Local Water Corporation has three HQ structures all of which have sustained partial damage to the exterior (windows, doors, etc.). However it is reported that the building infrastructure (offices equipment, furniture, washrooms, lighting, etc.) has been totally destroyed.

9.3.2 Pumping Stations

There are three pumping stations where doors, windows, fences and gates have some partial damage. The infrastructure of the pumping facilities, have been totally destroyed.

9.3.3 Water Storage

Four reservoirs are in place and all have sustained some partial damage. It's not clear if the extent of the damage prevents storing of water.

9.4 Water Production & Distribution Network – Damage Status

9.4.1 Tube Wells and Well Heads

The LC is reporting that its pumps, including submersible pumps have sustained partial damage but the exact number is unknown. Eighteen generators out of a total not known, are reported to have been destroyed.

9.4.2 Water Distribution Network

Lahij LC has a total of 16.5 km of main water lines and 18.2 km of distribution network piping all of which seems to be undamaged.

Water supplied through the distribution network is available less than 12 hours per day. Water quality checks are conducted on a quarterly basis and water samples are analysed at the Aden LC laboratory.

9.4.3 Water Supply Data

Total water produced in 2014	4,620,468 m ³
Total water billed in 2014	3,003,304 m ³
Total water produced in 2015	231,023 m ³
Total water billed in 2015	n. a.

9.4.4 Water Meters

The total number, at the end of 2014, of existing water meters that were either in LC stores or installed was 19,500. The total number of functioning water meters in the system at the end of 2014 was 9,250. There are no reported figures for 2015.

9.4.5 Non-Revenue Water (NRW)

Average NRW for 2014	35%
Average NRW for 2015	n. a.

9.5 Lahij LC Wastewater System

Lahij LC has no wastewater collection network, trunk mains or treatment plant.

9.6 Lahij LC Operations and Maintenance Vehicles

The LC is reporting that all 12 maintenance vehicles have been stolen. It is also reporting that a truck equipped for flushing sewer lines, has been stolen (see section 9.5 above).

9.7 Lahij LC Installation and Maintenance Tools & Equipment

The LC is reporting that its installation and maintenance tools and equipment have been partially damaged. No details are available.

9.8 Observations

The following observations are based on what was reported or not and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or report improvement.

Management:

- There were no details on the BOD and its members.
- An organization chart was not evident.
- The Corporate Financial, Budget and Cost Data is incomplete, contains errors and what has been provided seems to be estimated.

Technical:

- Four water storage structures have been partially damaged but it is not clear if they can store water or not.
- The number of submersible pumps damaged in the wells is not known.
- Thirty-eight wells operating in 2014, twenty-eight operating in 2015 and 18 generators totally destroyed. There seems to be more generators (18) not working than wells (10).
- Water supply data incomplete.
- In 2014, 10,250 water meters became non-functioning with no reasonable rationale and no data given for 2015 water meters.
- NRW data incomplete.

- Stolen maintenance vehicles have no details as to make, type, age, engine size, etc.
- A flushing truck is stolen, no details given, also it is stated there is no sanitation system.
- No details to substantiate the type of tools and equipment that have been damaged.

9.9 Stage One Conclusions

Essentially the key assessment data is incomplete and as such would make it difficult to determine what should be considered as vital emergency items or commodities.

9.10 Stage One Recommendations

- R1** LC requires a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that are working during the conflict period.
- R2** Provide sufficient data and photographs to make a practical assessment for vital emergency support.

10.

Sa'ada Local Corporation

SA'ADA GOVERNORATE – GEOGRAPHIC LOCATION



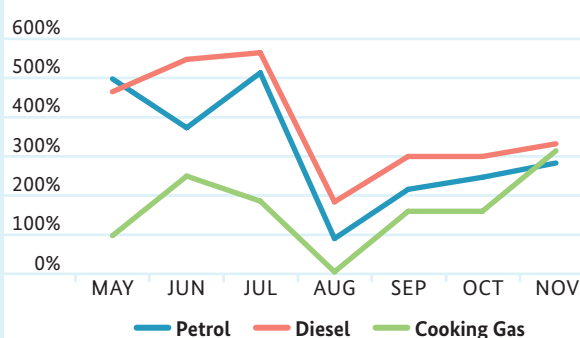
10.1 Background

Seat	Sa'ada
Area	15,022 km ²
Altitude	1876 m (Sa'ada City)
GPS Coordinates	Latitude: 16.950941 Longitude: 43.747774
Population & demographics	The governorate has a total population of 888,000 (low population density: 59/km ²). The population of Sa'ada city is 70,000.
Population movement and displacement	Highly affected by fighting, some 500,794 IDPs originate from Sa'ada. The governorate is currently hosting upwards of 173,230 IDPs.
Socio-economic situation	Shortages of main commodities were common during the first months of the war but availability has improved since mid-2015. Retail prices for essential food items are about 60% higher, fuel and gas prices have stabilised by about 300% to prior crisis price level (WFP, November 2015).

Implications on WASH sector

Prior crisis, about 439,199 people had no access to (improved) water sources (sanitation: 458,719).

Price changes from pre-crisis level (in %) in 2015



10.2 Sa'ada LC Corporate Data

The full and legal name is the *Sa'ada Water & Sanitation Local Corporation, Sa'ada Governorate*. It was formed as a local corporation in 2006, is located in Al Salam area of Sa'ada city, and the current Director General of the corporation is *Marwan Ali Abdo Al Harazi*. The designated focal persons for GIZ interventions during the conflict are: *Marwan Ali Abdo Al Harazi* and *Amin Saleh Qurmash*.

10.2.1 LC Board of Directors (BoD)

The current BoD consists of the following members:

<i>Mr. Mohammed Jaber Awadh</i>	<i>Chairman of the Board;</i>
<i>Mr. Marwan Abdo Al-Harazi</i>	<i>Director General of the Local Corporation</i>
<i>Mr. Nasser Harban</i>	<i>Director General of Planning and International Cooperation Office</i>
<i>Mr. Ahmed Rajah Al Awayri</i>	<i>Director General of Finance Office</i>
<i>Mr. Yahya Mohammed Al- Sharafi</i>	<i>Director General of Water Resources Authority</i>
<i>Mr. Saleh Alsaygi</i>	<i>Representative of beneficiaries</i>
<i>Mr. Mohsen Ali Alelabi</i>	<i>Representative of the Chamber of Commerce and Industry</i>

During the current armed conflict the BoD has not met. The last BoD meeting was March 2015.

10.2.2 LC Management and Staff

The management consists of one individual manager who last received his salary in September 2015. Prior to the conflict there was a staff compliment of 74, that figure has dropped to 13 during the conflict (the number of persons according to sections currently working is in parentheses).

- 19 (2) in administrative and management activities;
- 9 (1) in the financial section;
- 27 (4) in a technical capacity;
- 2 in customer service;
- 2 in planning & statistics; and,
- 15 (6) in water supply activities.

There is no organization chart in the reported data.

10.2.3 LC Corporate Financial, Budget and Cost Data

Current cash flow (monthly)	4,470,526 YER
Post conflict cash flow requirement (monthly)	13,740,000 YER
Current Bank Balance (current account)/ average	49,424 YER
Balance required in a post-conflict situation	15,220,000 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	3,833,333 YER
Total recurrent budget requested for 2014	147,964,000 YER
Total recurrent budget approved/received for 2014	147,964,000 YER
Total recurrent budget executed (spent) in 2014	132,490,645 YER
Of which from national budget	68,789,778 YER
Of which own resources	61,500,867 YER
Of which donor funded	2,200,000 YER
Of 2014 recurrent expenditure, how much spent for salaries	76,994,969 YER
Of 2014 recurrent expenditure, how much spent for others (specify)	57,929,129 YER
2014 rate of expenditure vs. approved recurrent budget	90%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	213,372,000 YER
Total recurrent budget approved/received for 2015	147,964,000 YER
Total recurrent budget executed (spent) in 2015	96,453,104 YER
Of which from national budget	36,824,462 YER
Of which own resources	40,230,000 YER
Of which donor funded	20,730,000 YER
Of 2015 recurrent expenditure, how much spent for salaries	50,726,000 YER
Of 2015 recurrent expenditure, how much spent for others	45,727,104 YER
2015 rate of expenditure vs. approved recurrent budget	65.19%

COST COVERAGE

Total expenditure 2014	165,550,918 YER
Total revenue 2014	61,500,867 YER
Operational loss 2014	104,050,051 YER
Collection efficiency (billed vs. received) 2014	69%
2014 average cost per m ³ water produced	254.70 YER
Actual 2014 average cost per m ³ water produced	253.0 YER
2014 weighted average tariff per m ³ water sold	359.50 YER
Actual 2014 weighted average tariff per m ³ water sold	167.0 YER
Total expenditure Sept 2015	105,574,369 YER
Total revenue 2015	40,234,742 YER
Operational loss 2015	65,339,627 YER
Collection efficiency (billed vs. received) 2015	76%
2015 average cost per m ³ water produced	296.50 YER
Actual 2015 average cost per m ³ water produced	263.0 YER
2015 weighted average tariff per m ³ water sold	840.50 YER
Actual 2015 weighted average tariff per m ³ water sold	223.0 YER

10.3 Sa'ada LC Structures and Buildings – Damage Status

10.3.1 Main Office and other Buildings

It is reported that the Main Office received only partial damage but details were not provided.

10.3.2 Pumping Station Buildings

In this category four operation buildings have been totally destroyed. They are located in Telmus, Gohzah, Rahban and Almusalhaqt. Hangars located in Telmus, Gohzah and Rahban have been totally destroyed as well as the fence and main gate at the Rahban station has been destroyed. All electro-mechanical infrastructure in the buildings has been demolished.

10.3.3 Water Storage

A total of seven reservoirs served the distribution network. Five of these reservoirs, located in Telmus, Gohzah, and Rahban, have been totally destroyed.

10.4 Sa'ada Water Production and Distribution Network – Data and Damage Status

10.4.1 Tube Wells and Well Heads

The LC is reporting damage to well head equipment. The number of operating wells at the end of 2014 was 3 and in September 2015 it rose to 7 but in the damage report 8 well heads are indicated.

10.4.2 Water Distribution Network

Sa'ada LC has 1200 meters of pumping pipe lines (ductile and galvanized steel), 1655 meters of transmission piping (ductile and polyethylene) and 22,060 of distribution network piping (polyethylene and galvanized steel) which are deemed partially damaged.

Water supplied through the distribution network is available once a week.

Water quality checks are not conducted.

10.4.3 Water Supply Data

Total water produced in 2014	649,992 m ³
Total water billed in 2014	460,557 m ³
Total water produced in 2015	356,055 m ³
Total water billed in 2015	125,618 m ³

10.4.4 Water Meters

The total number, at the end of 2014, of existing water meters that were either in LC stores or installed was 3,680. The total number of functioning water meters in the system at the end of 2014 was 3,441. The total number, at the end of September 2015, of existing water meters that was either in LC stores or installed was 3,790. The total number of functioning water meters in the system at the end of September 2015 was 2,680.

10.4.5 Non-Revenue Water (NRW)

Average NRW for 2014	29.1%
Average NRW until September 2015	64.7%

10.5 Sa'ada LC Wastewater System

Sa'ada LC has no wastewater collection network, trunk mains or treatment plant.

10.6 Sa'ada LC Operations and Maintenance Vehicles

The LC is reporting that it has no operations and maintenance vehicles. It is not clear whether they have been destroyed or they never had them in the first place.

10.7 Sa'ada LC Installation and Maintenance Tools & Equipment

The LC is reporting that it has no installation and maintenance tools and equipment. It is not clear whether they have been destroyed or they never had them in the first place.

10.8 Observations

The following observations are based on what was reported or not and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or improvement.

- A good indicator is the exact number of workers and managers which have been working during the conflict.
- No organization chart;
- Main office damage details are not provided.
- Some variation in the reported number of wells operating. In the damage assessment sheet the number is 8 for 2015, in the institutional efficiency spreadsheet the number is 7 and only 3 for 2014.
- NRW increased in 2015 to 64.7% from 29.1% in 2014; over a 100% increase.
- Water quality checks are not conducted.
- Some quantities of pipe listed (4" galvanized and 3" polyethylene) on the damage assessment sheet do not reflect what is listed on a supplementary list of damages where all pipes are included.
- In reporting on operations and maintenance vehicles, it was not clear whether they have been destroyed, if so there would be none, or that there were no vehicles in the first place. This statement also applies to installation and maintenance tools and equipment.

10.9 Stage One Conclusions

Although the current situation in terms of water supply to households is once a week, the limited number of wells operating, extensive distribution pipe damage, generators and pumps destroyed all place enormous stress on the system and create serious shortages for the population of Sa'ada. An emergency situation exists.

10.10 Stage One Recommendations

- R1** LC requires a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that are working during the conflict period.
- R2** Rehabilitate, replace and/or repair well head equipment (pump, electrical panel, generator, fuel tank etc.) at one site.
- R3** Provide appropriate size and lengths of piping to replace damaged piping in the part of the distribution network that is impacted by the R2 well production.
- R4** Provide the necessary valves for the piping.

11.

Sana'a Local Corporation

SANA'A GOVERNORATE – GEOGRAPHIC LOCATION



11.1 Background

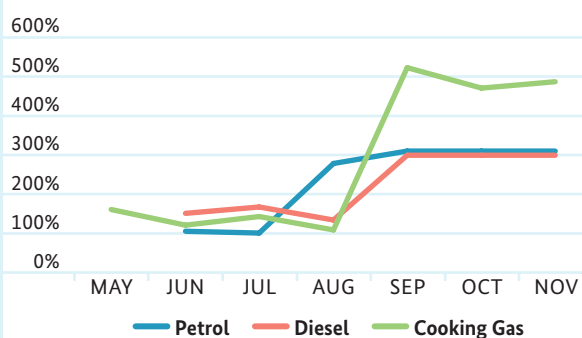
Seat	Sana'a
Area	126 km ²
Altitude	2256 m
GPS Coordinates	Latitude: 15.369445 Longitude: 44.191007
Population & demography	The capital's total population is 2,280,000 with a relatively high population density of 18,095/km ² .
Population movement and displacement	281,529 displaced people originate from Sana'a and another 175,973 from the governorate of Sana'a. The number of hosted IDPs has dramatically increased by 183,226 to 191,786 in Sana'a governorate in Nov 2015.
Socio-economic situation	Shortages of main commodities were common during the first months of the war but availability has improved since mid-2015. However, retail prices for fuel and gas have risen dramatically in the last months of 2015 by about 300–500% to prior crisis price level (WFP, November 2015).

Conflict implications on WASH sector

Prior crisis, about 790,720 people had no access to (improved) water sources (sanitation: 197,680).

The water supply and sanitation services have been affected by conflict-related damage to WASH infrastructure. The lack of fuel set public water networks and commercial water trucking at imminent risk of stopping services. Prices for commercial water trucking services have more than doubled. Sanitation is also deteriorating with sewage treatment plants working at reduced functionality. When considered with declining access to safe drinking water, these trends point to a potential public health crisis.

Price changes from pre-crisis level (in %) in 2015



11.2 Sana'a LC Corporate Data

The full and legal name is the Sana'a Water & Sanitation Local Corporation, Sana'a Governorate. It was formed as a local corporation in 2000, is located in Al Hasabah area of Sana'a city, and the current Director General of the corporation is Eng. Nabil Abdullah, Alwazeer. The designated focal person for GIZ interventions during the conflict is: Eng. Nabil Abdullah Alwazeer.

11.2.1 LC Board of Directors (BoD)

The current BoD member's names can be seen below:

<i>Mr. Abdul Qader Helal</i>	<i>Mayor of Sana'a, Chairman, Board of Directors</i>
<i>Mr. Amin Jumaan</i>	<i>Representative of Beneficiaries, Board Member</i>
<i>Eng. Abdullah Al-Shater</i>	<i>Ministry of Planning and International Cooperation, Board Member</i>
<i>Mohammed Al-Saqqaf</i>	<i>Ministry of Finance, Board Member</i>
<i>Mr. Nabil Abdullah</i>	<i>Director General of SWSLC, Board Member</i>
<i>Eng. Motahr Al- Nadhar</i>	<i>NWASA, Board Member</i>
<i>Mr. Ali Mohammed Al-Alsoraimy</i>	<i>NWRA, Board Member</i>
<i>Mr. Abdul Aziz Morshed</i>	<i>Chamber of Commerce, Board Member</i>
<i>Mr. Abdul Karim Al-Modeer</i>	<i>Ministry of Water and Environment, Board Member</i>

During the current armed conflict, the BoD has not met.

11.2.2 LC Management and Staff

The managers working during the conflict period has not been reported. September 2015 was the last time managers received their salary. Prior to the conflict there was a staff compliment of 1513; eight hundred and thirty-eight of which were in technical areas; three hundred and ninety-three in administration and management section; eighty-three in the finance section and nine in the planning section. Organizational charts can be seen on the next page.

11.2.3 LC Corporate Financial, Budget and Cost Data

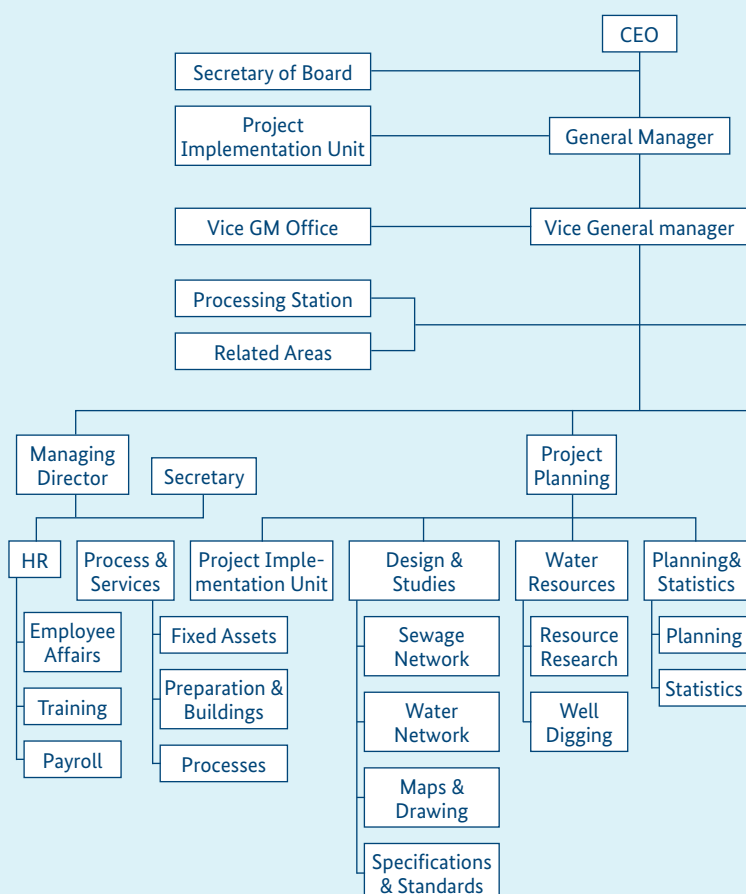
Current cash flow (monthly)	148,362,563 YER
Post conflict cash flow requirement (monthly)	382,842,787 YER
Current Bank Balance (current account)/ average	0 YER
Balance required in a post-conflict situation	100,000,000 YER
Current balance of the depreciation account	2,810,328 YER
Average balance required in a post-conflict situation	2,810,328 YER
Total recurrent budget requested for 2014	7,911,772,000 YER
Total recurrent budget approved/received for 2014	5,348,000,000 YER
Total recurrent budget executed (spent) in 2014	4,198,958,086 YER
Of which from national budget	0 YER
Of which own resources	4,198,958,086 YER
Of which donor funded	0 YER
Of 2014 recurrent expenditure, how much spent for salaries	2,088,644,464 YER
Of 2014 recurrent expenditure, how much spent for others	596,737,387 YER
2014 rate of expenditure vs. approved recurrent budget	79%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	7,694,750,000 YER
Total recurrent budget approved/received for 2015	5,348,000,000 YER
Total recurrent budget executed (spent) in 2015	1,866,314,871 YER
Of which from national budget	50,000,000 YER
Of which own resources	87%
Of which donor funded	201,000,000 YER
Of 2015 recurrent expenditure, how much spent for salaries	950,392,213 YER
Of 2015 recurrent expenditure, how much spent for others	164,443,805 YER
2015 rate of expenditure vs. approved recurrent budget	34.9%

COST COVERAGE

Total expenditure 2014	4,198,958,086 YER
Total revenue 2014	3,946,052,353 YER
Operational loss 2014	252,905,733 YER
Collection efficiency (billed vs. received) 2014	94%
2014 average cost per m ³ water produced	253.3 YER
Actual 2014 average cost per m ³ water produced	253.0 YER
2014 weighted average tariff per m ³ water sold	392.4 YER
Actual 2014 weighted average tariff per m ³ water sold	167.0 YER

Total expenditure Sept 2015	1,423,103,292 YER
Total revenue 2015	1,435,263,069 YER
Operational loss 2015	12,159,777 YER
Collection efficiency (billed vs. received) 2015	51%
2015 average cost per m ³ water produced	213.1 YER
Actual 2015 average cost per m ³ water produced	263.0 YER
2015 weighted average tariff per m ³ water sold	277.7 YER
Actual 2015 weighted average tariff per m ³ water sold	223.0 YER

ORGANIZATIONAL STRUCTURE – LOCAL WATER & SEWAGE ESTABLISHMENT SANA'A



11.3 Sana'a LC Structures and Buildings – Damage Status

11.3.1 Main Office and other Buildings

It is reported that the Main Office has sustained extensive damage to all its windows (164) and doors (14) but the main building structure has no structural damage. The building infrastructure is reported to be in working order as are the furnishings and office equipment. It is reported that there are 25 stores building and their contents and one workshop; however, it does not indicate if they are damaged or not and the contents are not listed or reported as being looted.

11.3.2 Pumping Station Buildings

It is reported that 18 windows have been destroyed in pumping station facilities. No details on location, and the number of buildings was given.

11.3.3 Water Storage

A concrete storage tank located in Alnahdin area, with a capacity of 5,000 m³ has been totally destroyed.

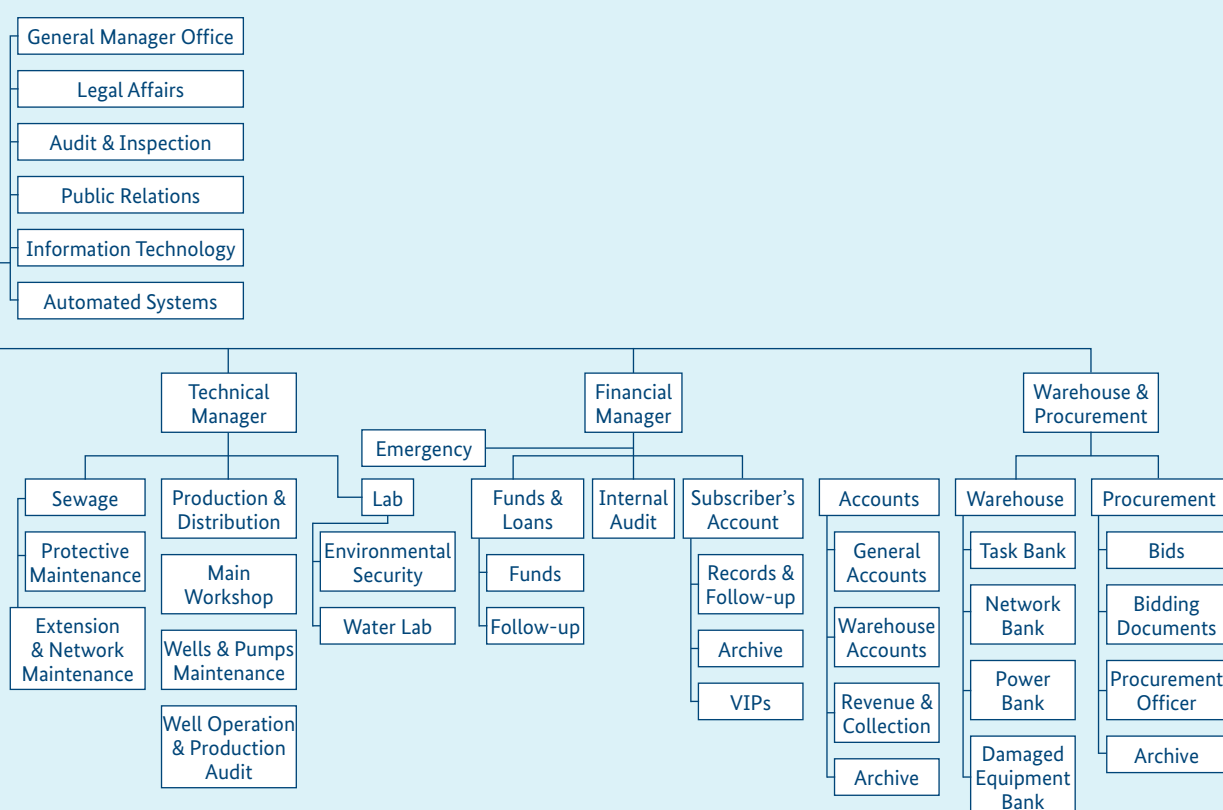
11.4 Sana'a Water Production and Distribution Network – Data and Damage Status

11.4.1 Tube Wells and Well Heads

The LC is reporting two tube wells and two well head structures at Nqom Alhafa have been totally destroyed. At the same location an additional 4 well heads have been partially damaged. An electrical panel and cabling has sustained irreparable damage. The number of operating wells at the end of 2014 was 80 and in September 2015 55 were still operating.

11.4.2 Water Distribution Network

Sana'a LC has 160 km of distribution network piping which has no reported damage. Water supplied through the distribution network is available less than once a week. Water quality checks are conducted in the Sana'a LC laboratory.



SANA'A LC COVERAGE

Present urban population in areas of influence (No. of inhabitants)	2,600,000
Urban population connected to water network end of 2014	55%
Urban population connected to water network end of Sept 2015	55%

SANA'A LC CONNECTIONS

No. of house connections planned 2014	15,000
No. of house connections produced 2014	1,477
Accumulated No. of house connections to end of Sept 2015	94,563

11.4.3 Water Supply Data

Total water produced in 2014	16,578,185 m ³
Total water billed in 2014	10,700,758 m ³
Total water produced in 2015	6,678,203 m ³
Total water billed in 2015	5,125,428 m ³

11.4.4 Water Meters

The total number of existing water meters, at the end of 2014, that were either in LC stores or installed was 94,120. The total number of functioning water meters in the system at the end of 2014 was 68,217 but 25,903 are giving zero readings. The total number, at the end of September 2015, of existing water meters that was either in LC stores or installed was 94,563. The total number of functioning water meters in the system at the end of September 2015 was 67,904 but 26,659 are giving zero readings.

11.4.5 Non-Revenue Water (NRW)

Average NRW for 2014 of water produced	35.5%
Average NRW until September 2015	23.3%

11.5 Sana'a LC Wastewater System

Sana'a LC has a wastewater collection network, trunk mains and a treatment plant.

COVERAGE

Urban population connected to sewerage network end of 2014	51%
Urban population connected to sewerage network end of Sept 2015	51%

CONNECTIONS

No. of house connections planned for 2014	8,000
No. of house connections produced 2014	2,433
Accumulated No. of house connections at end of Sept 2015	85,758

11.5.1 Wastewater Treatment Plant (WWTP)

Sana'a LC is operating an Activated Sludge – Extended Aeration process in its WWTP. The WWTP is designed to process 50,000 m³ of influent per day. Currently the influent is 55,000 m³ per day. Effluent discharged per day is not reported. The Sana'a LC is reporting no damage to its WWTP or its infrastructure.

11.5.2 Wastewater Collection Network

The network has 504.8 km of collection piping and trunk mains. At this time the LC is reporting no damage.

11.6 Sana'a LC Operations and Maintenance Vehicles

The LC is reporting 2 trucks with cranes and 30 tonne winches have been totally destroyed.

11.7 Sana'a LC Installation and Maintenance Tools & Equipment

The LC is reporting that it has damaged or destroyed installation and maintenance tools.

11.8 Observations

The following observations are based on what was reported or not and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or improvement.

- A noticeable factor for a very large LC is that the BOD did not meet during the conflict period.
- The assessment data is not indicating how many managers and staff are working during the conflict. This is a key indicator when attempting to gain support for financial incentives and/or salaries for workers who have and are working during the conflict period.
- The damage assessment report states that there are 25 stores buildings and their contents as well as one stores building but there is no data to substantiate if they are partially and totally destroyed and there is not data on the contents.
- Windows are reported by number only for pumping stations; there were no further details in the damage assessment report.

- The magnitude of malfunctioning water meters suggests a need for replacement parts for rebuilding or repair.
- The design capacity of the WWTP is being exceeded on a daily basis;

11.9 Stage One Conclusions

Water production has been seriously hampered by the destruction of 2 wells and 6 well head installations. It's not clear how in 2014 there were 80 wells in production and in 2015 this figure has dropped to 55; yet only four wells have been reported as destroyed or damaged.

Water storage has been seriously affected and this impacts the frequency of water supplies.

All other operations appear to be operating as best they can.

11.10 Stage One Recommendations

R1 LC requires a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that is working during the conflict period.

R2 Provide the necessary equipment and supplies to repair or rebuild up to two tube wells and four well heads.

R3 Provide replacement control panel cables.

R4 Refurbish one floor of the new main office building to accommodate basic operations.

R5 Expand the number of water filling points.

12.

Taiz Local Corporation

TAIZ GOVERNORATE – GEOGRAPHIC LOCATION



12.1 Background

Seat	Taiz
Area	12,605 km ²
Altitude	1270 m (Taiz City)
GPS Coordinates	Latitude: 13.587248 Longitude: 44.03514
Population & demography	Taiz governorate is the most populated governorate (3,054,000) in Yemen with an estimated 12% of Yemen's overall population. A major urban area besides Taiz city is the town Dimnat Chadir. It has a population density of 242/km ² .
Humanitarian situation	The governorate is the most affected of all by the current conflict. Taiz city has been under a virtual state of siege since the beginning of September 2015. Little, if any, commercial goods or humanitarian assistance have been able to enter the three city districts of Al Mudhafer, Al Qahirah and Al Salh.
Population movement and IDPs	Two-thirds of the population has left the city of Taiz. Some 175,000 to 200,000 men, women and children, however, still remain. Taiz governorate hosts about 392,429 IDPs. Concomitantly, 507,402 IDPs originate from Taiz.

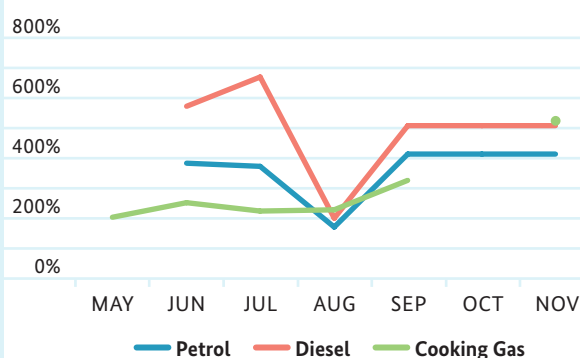
Socio-economic situation and conflict implications

The scarcity of commodities in the markets of those conflict affected areas has led to remarkable escalation of prices of all commodities. In Taiz the average price of fuel has increased by about 400%. Similarly, the average price of wheat flour in November is over 134% higher than the pre-crisis.

Conflict impacts on WASH sector

Water and sanitation service provision has stopped in Taiz. Prior crisis, about 1,342,980 people had no access to (improved) water sources (sanitation: 1,402,480).

Price changes from pre-crisis level (in %) in 2015



12.2 Taiz LC Corporate Data

The full and legal name is the Local Corporation for Water and Sanitation, Taiz Governorate. It was formed in 2001, is located in Taiz city, and the current Director General of the corporation is Mr. Mohamed Ahmed Ibrahim Amer. The designated focal person for GIZ interventions during the conflict is Eng. Samir Abdulahed.

12.2.1 LC Board of Directors (BOD)

Currently there is no information on the Board of Directors. There were two meetings during 2014 and one in 2015. The topic of the last meetings was how to pay the salaries. In addition, there is no information on the Advisory Committee in the Mukha Branch and on the Operational Committee in Al Turbah.

12.2.2 LC and Branch Office Management and Staff

The management team at Taiz LC head office consists of 9 individual managers, who together with their staff last received their salaries in June 2015. Prior to the conflict there was a staff compliment of 761; four hundred and seventy-six of which were in the technical section, ninety-two in the financial section, ninety-four in the customer service section and seventy-five in the administrative/management section. During the conflict there have been sixty-seven staff working in a technical capacity, nine in financial services, thirteen in an administrative role, six in customer service, and three in planning. There was no organizational chart for the LC.

In the Mukha Branch office the management team consists of 3 individual managers who together with their staff last received their salaries in September 2015. Prior to the conflict there was a staff compliment of 36; eight of which were in the technical section, six in the financial section, seven in the customer service section and fifteen in the administrative/management section. It's not clear how many of the staff and managers have been working during the conflict. There was no organization chart for the branch.

In the Al Turbah Branch office the management team consists of 2 individual managers who together with their staff last received their salaries in June 2015. Prior to the conflict there was a staff compliment of 35; fourteen of which were in the technical section, five in the financial section, seven in the customer service section and eight in the administrative/management section. It's not clear how many of the staff and managers have been working during the conflict. There was no organization chart for the branch.

12.2.3 Taiz LC Corporate Financial, Budget and Cost Data

Current cash flow (monthly)	0 YER
Post conflict cash flow requirement (monthly)	238,665,153 YER
Current Bank Balance (current account)/average	0 YER
Balance required in a post-conflict situation	136,373,360 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	52,602,092 YER
Total recurrent budget requested for 2014	2,431,230,317 YER
Total recurrent budget approved/received for 2014	2,244,750,000 YER
Total recurrent budget executed (spent) in 2014	1,462,941,566 YER
Of which from national budget	794,750,000 YER
Of which own resources	0 YER
Of which donor funded	0 YER
Of 2014 recurrent expenditure, how much spent for salaries	790,493,345 YER
Of 2014 recurrent expenditure, how much spent for others	645,986,972 YER
2014 rate of expenditure vs. approved recurrent budget	65%
What if any additional subsidies received from Ministry of Finance during conflict situation	0
Total recurrent budget requested for 2015	2,244,750,000 YER
Total recurrent budget approved/received for 2015	2,244,750,000 YER
Total recurrent budget executed (spent) until August 2015	947,512,639 YER
Of which from national budget	794,750,000 YER
Of which own resources	0 YER
Of which donor funded	0 YER
Of 2015 recurrent expenditure, how much spent for salaries	653,906,340 YER
Of 2015 recurrent expenditure, how much spent for others	293,606,299 YER
2015 rate of expenditure vs. approved recurrent budget	42.21%

COST COVERAGE

Total expenditure 2014	2,067,705,425 YER
Total revenue 2014	1,622,808,104 YER
Operational loss 2014	1,175,081,443 YER
Collection efficiency (billed vs. received) 2014	73%
2014 average cost per m ³ water produced	437.9 YER
Actual 2014 average cost per m ³ water produced	438.0 YER
2014 weighted average tariff per m ³ water sold	562.4 YER
Actual 2014 weighted average tariff per m ³ water sold	376.0 YER
Total expenditure up to August 2015	1,420,931,470 YER
Total revenue up to August 2015	905,994,757 YER
Operational profit/loss up to August 2015	469,419,335 YER
Collection efficiency (billed vs received) 2015	52%
Average cost per m ³ water produced in 2015	788.1 YER
Actual 2015 average cost per m ³ water produced	788.0 YER
2015 weighted average tariff per m ³ water sold	997.7 YER
Actual 2015 weighted average tariff per m ³ water sold	636.0 YER

12.2.4 Mukha Branch Office Corporate Financial, Budget and Cost Data

Current cash flow (monthly)	5,690,954 YER
Post conflict cash flow requirement (monthly)	–
Current Bank Balance (current account)/ average	7,480,272 YER
Balance required in a post-conflict situation	–
Current balance of the depreciation account	–
Average balance required in a post-conflict situation	–
Total recurrent budget requested for 2014	122,763,265 YER
Total recurrent budget approved/received for 2014	100,840,489 YER
Total recurrent budget executed (spent) in 2014	78,506,199 YER
Of which from national budget	33,000,000 YER
Of which own resources	0 YER
Of which donor funded	0 YER
Of 2014 recurrent expenditure, how much spent for salaries	41,433,250 YER
Of 2014 recurrent expenditure, how much spent for others	36,909,015 YER

2014 rate of expenditure vs. approved recurrent budget	78%
What if any additional subsidies received from Ministry of Finance during conflict situation	0 YER
Total recurrent budget requested for 2015	100,840,489 YER
Total recurrent budget approved/received for 2015	100,840,489 YER
Total recurrent budget executed (spent) until August 2015	57,885,422 YER
Of which from national budget	33,000,000 YER
Of which own resources	0 YER
Of which donor funded	0 YER
Of 2015 recurrent expenditure, how much spent for salaries	31,074,938 YER
Of 2015 recurrent expenditure, how much spent for others	26,810,485 YER
2015 rate of expenditure vs. approved recurrent budget	57.40%

COST COVERAGE

Total expenditure 2014	96,342,265 YER
Total revenue 2014	80,342,877 YER
Operational profit/loss 2014	15,999,388 YER
Collection efficiency (billed vs. received) 2014	85%
2014 average cost per m ³ water produced	167.3 YER
Actual 2014 average cost per m ³ water produced	167.0 YER
2014 weighted average tariff per m ³ water sold	217.2 YER
Actual 2014 weighted average tariff per m ³ water sold	181.0 YER
Total expenditure up to August 2015	75,885,422 YER
Total revenue up to August 2015	60,257,158 YER
Operational profit/loss up to August 2015	15,628,264 YER
Collection efficiency (billed vs. received) 2015	85%
2015 average cost per m ³ water produced	219.6 YER
Actual 2015 average cost per m ³ water produced	220.0 YER
2015 weighted average tariff per m ³ water sold	285.2 YER
Actual 2015 weighted average tariff per m ³ water sold	226.0 YER

12.2.5 Al Turbah Branch Office Corporate Financial, Budget and Cost Data

Current cash flow (monthly)	2,061,137 YER
Post conflict cash flow requirement (monthly)	0 YER
Current Bank Balance (current account)/ average	4,631,118 YER
Balance required in a post-conflict situation	0 YER
Current balance of the depreciation account	0 YER
Average balance required in a post-conflict situation	0 YER
Total recurrent budget requested for 2014	76,823,418 YER
Total recurrent budget approved/received for 2014	65,795,511 YER
Total recurrent budget executed (spent) in 2014	52,435,520 YER
Of which from national budget	21,250,000 YER
Of which own resources	0 YER
Of which donor funded	0 YER
Of 2014 recurrent expenditure, how much spent for salaries	17,166,312 YER
Of 2014 recurrent expenditure, how much spent for others	35,064,290 YER
2014 rate of expenditure vs. approved recurrent budget	80%
What if any additional subsidies received from Ministry of Finance during conflict situation	0
Total recurrent budget requested for 2015	65,795,511 YER
Total recurrent budget approved/received for 2015	65,795,511 YER
Total recurrent budget executed (spent) until August 2015	34,418,785 YER
Of which from national budget	21,250,000 YER
Of which own resources	0 YER
Of which donor funded	0 YER
Of 2015 recurrent expenditure, how much spent for salaries	15,538,785 YER
Of 2015 recurrent expenditure, how much spent for others	18,880,000 YER
2015 rate of expenditure vs. approved recurrent budget	52.31%

COST COVERAGE

Total expenditure 2014	64,730,602 YER
Total revenue 2014	37,230,602 YER
Operational profit/loss 2014	27,500,000 YER
Collection efficiency (billed vs. received) 2014	124%
2014 average cost per m ³ water produced	637.7 YER
Actual 2014 average cost per m ³ water produced	638.0 YER
2014 weighted average tariff per m ³ water sold	769.4 YER
Actual 2014 weighted average tariff per m ³ water sold	443.0 YER
Total expenditure up to August 2015	46,918,785 YER
Total revenue up to August 2015	27,320,348 YER
Operational profit/loss up to August 2015	19,598,437 YER
Collection efficiency (billed vs received) 2015	68%
2015 average cost per m ³ water produced	673.2 YER
Actual 2015 average cost per m ³ water produced	673.0 YER
2015 weighted average tariff per m ³ water sold	798.1 YER
Actual 2015 weighted average tariff per m ³ water sold	465.0 YER

12.3 Taiz LC and Branch Structures and Buildings – Damage Status

12.3.1 Main Buildings

a) The Taiz LC is reporting as follows:

Head Office building is partially damaged; 72 windows totally destroyed and 135 partially damaged; 80 wooden doors partially damaged; 92 aluminium doors completely destroyed and 150 are partially damaged. Details of the infrastructure in the building are not given.

The Water and Sanitation building has some parts of the structure that are totally destroyed and other sections that are partially damaged. Forty-five windows and 20 wooden doors have sustained some damage and 14 are completely destroyed. Details of the infrastructure in the building are not given.

The Laboratory building has been totally destroyed but no details on the structure or its contents are available.

The Workshop building has some parts of the structure that are totally destroyed and other sections that are partially damaged. Eighteen windows and 1 wooden door

has sustained some damage and 4 doors are completely destroyed. Details of the infrastructure in the building are not given.

The Stores hangars has sustained partial damage to its structure, windows and doors. Two diesel pumps have been totally destroyed.

The Guard Room has incurred some damage to the structure with doors and windows being totally destroyed.

b) Administration zones and Branch buildings

Administration building in the first zone – Al Qahirah district and the Administration building in the second zone – Al Modafar district, have been partially damaged in terms of their structure, windows and doors. The Administration building in the third zone – Salah district has been totally destroyed.

12.3.2 Pumping Stations

Taiz LC is reporting damage to pumping facilities; the building has sustained partial damage in certain sections and total destruction in others. Doors, gates and fences have been completely destroyed.

12.3.3 Water Storage

Taiz LC is reporting partial damage to its water storage structures but no specific details have been provided.

12.4 Taiz LC and Branches Water Production and Distribution Network – Data & Damage Status

12.4.1 Tube Wells and Well Heads

The Taiz LC is reporting partial damage to well head equipment and its tube wells; no specifics provided. The number of operating wells in the LC and its Branches at the end of 2014 was 58 and up to the end of September 2015 58 were still being operated.

12.4.2 Water Distribution network

Taiz LC and its Branches have 884 km of main line and distribution network piping.

In terms of main line and distribution piping damage, it is reported that all has been totally destroyed.

Generators, electrical panels and cables, pumps (not specific) and general repairs and maintenance materials have been totally destroyed.

TAIZ LC AND BRANCHES COVERAGE

Taiz LC urban population in areas of influence (No. of inhabitants)	654,330
Urban population connected to water network end of 2014	83%
Urban population connected to water network end of Sept 2015	81%
Murkha branch urban population in areas of influence (No. of inhabitants)	19,000
Urban population connected to water network end of 2014	87%
Urban population connected to water network end of Sept 2015	90%
Al Turbah urban population in areas of influence (No. of inhabitants)	20,000
Urban population connected to water network end of 2014	60%
Urban population connected to water network end of Sept 2015	60%

TAIZ LC AND BRANCHES HOUSE CONNECTIONS

Taiz LC no. of house connections planned 2014	1,504
Taiz LC no. of house connections produced 2014	935
Accumulated no. of house connections to end of Sept 2015	52,126

Taiz LC reported that water is supplied less than once per week. Water quality checks are conducted once a week and they are performed in the Taiz LC laboratory.

Mukha branch no. of house connections planned 2014	100
Murka branch no. of house connections produced 2014	35
Accumulated no. of house connections to end of Sept 2015	2,900

Mukha branch reported that water is supplied every other day. Water quality checks are conducted once a month and they are performed in the Taiz LC laboratory.

Al Turbah no. of house connections planned 2014	120
Al Turbah no. of house connections produced 2014	40
Accumulated no. of house connections to end of Sept 2015	1,580

Al Turbah branch reported that water is supplied less than once per week. Water quality checks are conducted once a month and they are performed in the Taiz LC laboratory.

12.4.3 Water Supply Data

TAIZ LC:

Total water produced in 2014	4,721,796 m ³
Total water billed in 2014	3,676,672 m ³
Total water produced in 2015	1,803,010 m ³
Total water billed in 2015	1,424,242 m ³

MUKHA BRANCH:

Total water produced in 2014	576,000 m ³
Total water billed in 2014	443,520 m ³
Total water produced in 2015	345,600 m ³
Total water billed in 2015	226,112 m ³

AL TURBAH BRANCH:

Total water produced in 2014	101,500 m ³
Total water billed in 2014	84,136 m ³
Total water produced in 2015	69,700 m ³
Total water billed in 2015	58,786 m ³

12.4.4 Water Meters

TAIZ LC:

The number of existing water meters at the end of 2014 was 48,314 and the number of functioning meters at the end of 2014 was 935. By the end of September 2015 the number of existing meters was 41,333 and the number that were actually functioning was 432.

MUKHA BRANCH:

The number of existing water meters at the end of 2014 was 2,900 and the number of functioning meters at the end of 2014 was 35. By the end of September 2015 the number of existing meters was 2,805 and the number that were actually functioning was 27.

AL TURBAH BRANCH

The number of existing water meters at the end of 2014 was 1,580 and the number of functioning meters at the end of 2014 was 40. By the end of September 2015 the number of existing meters was 1,485 and the number that were actually functioning was 11.

12.4.5 Non-Revenue Water (NRW)

TAIZ LC:

Average NRW for 2014	22%
Average NRW for 2015	21%

MUKHA BRANCH:

Average NRW for 2014	23%
Average NRW for 2015	23%

AL TURBAH BRANCH:

Average NRW for 2014	17%
Average NRW for 2015	16%

12.5 Taiz LC Wastewater System Data & Damage Status

Taiz LC is operating a wastewater system which has:

COVERAGE

Urban population connected to sewerage network end of 2014	68%
Urban population connected to sewerage network end of Sept 2015	66%

CONNECTIONS

No. of house connections planned for 2014	5,200
No. of house connections produced 2014	2,934
Accumulated No. of house connections at end of Sept 2015	42,734

12.5.1 Wastewater Treatment Plant (WWTP)

Taiz LC is operating Bio-Oxidation ponds as its WWT. The WWT is designed to process 17,000 m³ of influent per day. Currently the influent is 9,000 m³ per day with an approx. 8,200 m³ of effluent discharged per day. The Taiz LC is reporting some damage to its WWT property in terms of fences, gates, building windows and doors but does not provide details. In addition electromechanical equipment at the WWT has been totally destroyed also no details as to the extent and how many pieces of equipment.

12.5.2 Wastewater Collection Network

The network has 241 km of collection piping and trunk mains. At this time the LC is reporting 370 meters of main sewer pipe has been destroyed as have 7,622 meters of collection piping. One septic tank has also been destroyed.

12.6 Taiz LC Operations and Maintenance Vehicles – Damage Status

Eighteen flushing truck have been totally destroyed. Other vehicles are in various damaged conditions but no details as to how many vehicles, make, year etc.

12.7 Taiz LC Installation and Maintenance Tools & Equipment – Damage Status

Tool and equipment are in various states of damage. No details provided.

12.8 Observations

The following observations are based on what was reported or not and what was requested in the data collection forms. It is anticipated that they will serve as indicators for performance appreciation or improvement.

Management:

- There are no details pertaining to the Board of Directors of the LC.
- There are no organizational charts for the LC or the two branches;
- The assessment data is indicating how many managers and staff in the LC are working during the conflict. This information is missing for both of the branches.

Technical:

- The damage assessment report states that there are details listed in attachments – there were no attachments.
- Building dimensions are specified. Damage in some cases is partial but it is not indicated how much is represented by partial whereas in another listing half the building is completely destroyed and the other half is only partially damaged.
- The magnitude of malfunctioning water meters in 2014 in the LC prior to the conflict was 47,379. This figure is taken from 48,314 existing meters with only 935 functioning. In 2015 the number of existing meters dropped to 41,333 and the number of functioning meters was only 432. The malfunctioning number is 40,901. It would appear that the high number of malfunctioning meters is not necessarily due to the conflict.

- In Mukha Branch the number of functioning water meters in 2015 was 27 but the NRW figure was 23% – these two figures seem to be improbable.
- Water production figures per month for the LC in 2015 are 50% of the figures in 2014 with the same number of operating wells and a very low NRW account.
- The damage assessment indicates all main and distribution piping is totally destroyed;
- The design capacity of the WWTP is approximately 50% more than it currently processes and it is serving 66–68% of the population.
- The WWTP has sustained damage to its electromechanical equipment but no details are provided.

12.9 Stage One Conclusions

This set of data needs to be improved in terms of technical completeness. With main lines and distribution piping completely destroyed, the private sector appears to be providing water supplies to key areas of the city.

12.10 Stage One Recommendations

- R1** LC and branch offices require a fiscal support mechanism that will facilitate salaries to be paid to the skeleton staff that are working during the conflict period.
- R2** Provide water filling points (tanks, water, and water containers).
- R3** Provide temporary sanitation facilities and hygiene kits.
- R4** Provide hygiene training where necessary.



1



2

ADEN – damages on gate reservoir (1), damages to the ground iron reservoir on Albarzakh (2), laboratory (3) & office building (4,5)



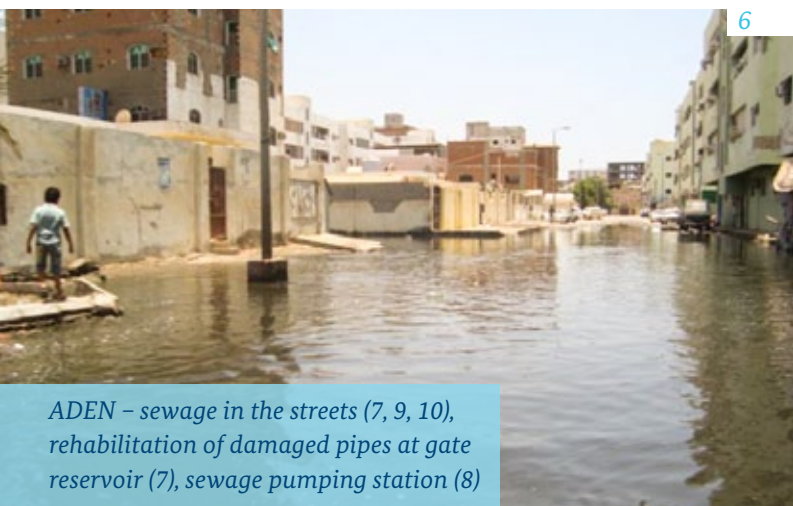
3



4



5



6

ADEN – sewage in the streets (7, 9, 10), rehabilitation of damaged pipes at gate reservoir (7), sewage pumping station (8)



7



8



9



10

HAJJAH Abs Branch –
damage in branch and
storage building (11, 13, 14)

11



12

HAJJAH –
looted power
generator (12)



13



14



Published by

Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

Registered offices

Bonn and Eschborn, Germany

Institutional Development of the Water Sector, Yemen

Office Hadda area, Str. 21

Sana'a, Yemen

Tel. +967 1 434 429 - Ext. 404

Fax +967 1 412 387

info@giz.de

www.giz.de/yemen

Author

Tawfeeq Al Shargabee, Mohammed Shamsan, Abduasalam Al Hakim,
Jamal Al Sayadi, Abdulwahed Ghaleb, Abdulmalek Al Ghazali, Emad Al Salwi,
Mohammed Al Odini (Ministry of Water and Environment),
Abdulwahab Salah (LC Sanaa), Abdulqawi Ali Hassan (Sanaa Focal Point),
Abdualraqueeb Al Hamadi (Al Hudaydah Focal Point),
Abdualraqueeb Al Charmani (Ibb Focal Point), Sameer Abdulwahed (Taiz Focal Point),
Hadi Quraia'a (Saada, Hajjah, Amran Focal Point)

Edited by

Michael Ellis, Zead Shawagfeh, Roaa Al Sakaaf, Arwa Humadi, Ashraf Al Eryani,
Nadim Mulhem, Dorina Derwanz

Photos

Cover page: © GIZ/Ammar Al Edlah

Page 82–83: © LC Aden/Amin Ahmed Saeed, LC Hajjah/Ameen Al Mogalis

Design and layout

Eva Hofmann, Katrin Straßburger, W4 Büro für Gestaltung, Frankfurt

As at

August 2016

GIZ is responsible for the content of this publication.

On behalf of

Federal Ministry for Economic Cooperation and Development (BMZ)

Addresses of the BMZ offices

BMZ Bonn

Dahlmannstraße 4

53113 Bonn, Germany

Tel. +49 (0) 228 99 535 - 0

Fax +49 (0) 228 99 535 - 3500

BMZ Berlin

Stresemannstraße 94

10963 Berlin, Germany

Tel. +49 (0) 30 18 535 - 0

Fax +49 (0) 30 18 535 - 2501

poststelle@bmz.bund.de

www.bmz.de