Annex 4.53
Action Plan for O&M of Mechanical Equipment in Fall 2017

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: Ali Husnain

Name of Organization: WASA GRW

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

As my department needs alot of work to be done on setting SOP's regarding to the maintenance. So my ultimate focus will be on documentation of all the operations being done under the ~~OEM~~ department. HSE, 5S, Preventive maintenance & Sustainability.

Please identify a site (in your organization) to implement the above training concepts.

Site: Implimentation on any Zone initially, to validate our SOP's.

Please provide a date by which you will implement the above trainings concepts.

Date: 5 March, 2018

Person Responsible (Your Name): Ali Husnain

Husnain
5/1/2018

Other Comments or Notes:

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: WAQAR SARWAR

Name of Organization: WASA Gujranwala

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1) Implementation of HSE on Tubewell.
2) To share my training Key Points and train tubewell operator.
3) Lable the SOP in the tubewell room.
4)

Please identify a site (in your organization) to implement the above training concepts.

Site: People colony Tubewell

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 05/02/2018

Person Responsible (Your Name): Waqar Sarwar

Other Comments or Notes:

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: WASEEMUDDIN 0321 2654646.

Name of Organization: WASA Quetta

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

I will Post Standard Operating Procedure SOP at Site

I will implement record keeping measures

Please identify a site (in your organization) to implement the above training concepts.

Site: Ayub Stadium Pumping Station

Please provide a date by which you will implement the above trainings concepts.

Date: 25th of January.

Person Responsible (Your Name): WASEEMUDDIN

Other Comments or Notes: -

I will provide / paste the manual at 10 Nos of Wells / pumping station and guide the staff accordingly.

For record keeping I will depute my staff to ensure proper record keeping for equipment maintenance

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: SAAD SIDDIQUI

Name of Organization: WASA, Lahore

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1- We will implement preventive maintenance plan for disposal Stations.
2- We will improve record Keeping of maintenance of tube wells & disposals.
3- We will educate operators about their respective machinery and their SOPs.
4- We will implement 5S in our store facility.
5-

Please identify a site (in your organization) to implement the above training concepts.

Site: Drainage Store at PMU office

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 28- Feb - 2018

Person Responsible (Your Name):

Saad Siddiqui

Other Comments or Notes:

Need Support from managment
Need dedication from operators and staff.

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: UMAIR MASOOD

Name of Organization: WASA, LAHORE

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1) We will introduce preventive maintenance for tubewells & machinery and also instruct our staff to do so.
2) Proper SOPs for tubewells and machinery will be adopted and drivers and operators will also be informed about this for proper record keeping and maintenance plan.
3) We will provide personal protective equipment to staff and also display warning signs at tubewells & disposals
4) We will also sort out items in the store and display name plates of tools & equipments.

Please identify a site (in your organization) to implement the above training concepts.

Site:

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 28-02-2018

Person Responsible (Your Name): Umair Masood

Other Comments or Notes:

1) Need support from higher management.
2) Also conduct field training of chlorinator maintenance.
3) Provide ~~field~~ training of O&M of Electrical equipments also.
4) Provide training regarding O&M of Disposal Pumps and Crane also.
5) This training was fruitful and more such trainings should be conducted in future.

jica

ALJAZARI ACADEMY

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: Aamir Hussain Shah

Name of Organization: WASA Rawalpindi

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1. ہم جا کر TINO کو Training کروائے گئے اور جو یہاں پڑھا اور سیکھا
اس کے بارے میں ان کو تربیت کروائی گئی اور اکٹھے ہو کر ان کو
ان پر عمل کروائے گئے۔ 5S میں ہم ٹیوب ویل اور آفس میں کروا
گے۔ ان شاء اللہ ایک دو ماہ میں مکمل تربیت اور عمل کروا
دیں گے کہ میرے پاس ٹیوب ویل اور OHR کا چارج ہے۔

Please identify a site (in your organization) to implement the above training concepts.

Site: Tubewells & OHR

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date:

Person Responsible (Your Name): [signature]

Other Comments or Notes:

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: Mukhdum Babar

Name of Organization: WASA. Faisalabad.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1. Implementation of preventive maintenance according to manual.
2. 5S implemented on store and office and train my under staff. HSE under availible PPE's.
3. Provide SOP and display on machinery for implementation.
4. Give awareness to lower staff about Parts of ~~mech~~ Jetter and Suctar machines.
5. Maintain Record ~~and~~ keeping and Implemention accordingly.

Please identify a site (in your organization) to implement the above training concepts.

Site: O&M (East) division.

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 19-Jan-2018.

Person Responsible (Your Name): Mukhdum babar.

5/1/18.

Other Comments or Notes:

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: Sh. Muhammad Imran.

Name of Organization: WASA Lahore.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

I will implement the 5S programme regarding machinery i.e concrete cube test hydraulic machine, other T&P for checking pipe diametre and pipe thickness.
I will label each and every thing according to its use in lab.

Please identify a site (in your organization) to implement the above training concepts.

Site: Quality control office/. Gulshan Ravi Lahore.

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 31-01-2018.

Person Responsible (Your Name): Sh. Muhammad Imran.

Other Comments or Notes:

Fund related items if needed would/may be delayed but not ignored.

5/1/18.

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: Zain Rashid

Name of Organization: WASA (LHR)

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1) I will implement 5S on Disposel Station and Lift Station
2) I will implement record keeping methode
3) I will trained my operator staff
4) I will Chached Tubwell weekly
5)

Please identify a site (in your organization) to implement the above training concepts.

Site: (A) Block Johar town

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 15/1/2018

Person Responsible (Your Name): Zain Rashid (WASA LHR)

Other Comments or Notes:

5/1/2018

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: WAHAJ KHAN NIAZI

Name of Organization: WASA LAHORE.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1. I will develop the preventive maintenance for vehicles (Jetty, Suction, backhoe)
2. I will develop the preventive maintenance for tubewell.
3. I will share my ideas/knowledge with the operators which I learn in this training.
4. I will implemet 5S at our facility. (INSHALLAH).

Please identify a site (in your organization) to implement the above training concepts.

Site: A.I. Town Sub-Division.

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 06/01/2018

Person Responsible (Your Name): WAHAJ KHAN NIAZI

Other Comments or Notes:

1. Need support from highups.
2. Required eligible staff.
3. Required Skilled and hard workers.

05/01/2018

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: ASAD Ali.

Name of Organization: WASA Faisalabad.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

① I will introduce PPE for the O&M staff, preventive maintenance plan, SOP & 5S

② Proper cleaning of 60 Nos. chambers. & equipment installed under chamber at Faisalabad city.

Please identify a site (in your organization) to implement the above training concepts.

Site: Gutt wala Tubewells installed under French Project.

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 05-02-2018

Person Responsible (Your Name):

ASAD Ali.

Other Comments or Notes:

① Try to push our LAB staff for ISO certification.

② Push our staffs for Post maintenance & Record keeping.

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: Muhammad Fiaz

Name of Organization: WASA Multan

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1- I will Introduce 5S Tools on my Facility.
2- I will develop Preventive Maintenance for Succer and Jetter ~~Machine~~ Machine
3- I will Introduce Personal Protective Equipment for Sewerman Health and safety.
4- I will Implement Proper Record Keeping on my Facility
5- I will operate My Machine by SOP's

Please identify a site (in your organization) to implement the above training concepts.

Site: Qasimpur Sub Division Sewerage (C)

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 30th April, 2018

Person Responsible (Your Name):

Muhammad Fiaz

Other Comments or Notes:

jICA

ALJAZARI ACADEMY

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: Kamran Khan

Name of Organization: Water & Sanitation Authority Quetta.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

I will develope preventive maintenance by the date, health, safety Environmental at site & specially 5S at our Tubewells, Officess As well As I will share this Training with my tube well operators & SDOs And Sub. Engrs.

Please identify a site (in your organization) to implement the above training concepts.

Site: North well field Sub-division Tube wells.

Please provide a date by which you will implement the above trainings concepts.

Date: 10th January 2018

Person Responsible (Your Name):

Kamran Khan

Other Comments or Notes:

I would like to invite JICA & Aljazari Team to visit wasa Quetta And specially Field work placess As soon As possible Plz.

Kamran Khan
5/01/2018

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: Abdul Qadir Abid

Name of Organization: WASA (MDA) Multan.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1. I will introduce Personal Protective Equipment (PPE) for sewerman.
2. I will develop preventive maintinance plan for sucker and Jetting machine.
3. I will post standandard operating proceddeure (SOP). for sucker and Jetting machines.
4. I will implement 5 S at my facility.
5. I will implement proper record keeping for machinery (sucker & Jetting)

Please identify a site (in your organization) to implement the above training concepts.

Site: New Multan Sub Div. Sewerage division (central).

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 30 April 2018

Person Responsible (Your Name): Abdul Qadir Abid

Other Comments or Notes:

JICA

ALJAZARI ACADEMY

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment   Date of Training: Jan 1st – Jan 5th, 2018

Name of Participant: SADEER AHMED ABBASI

Name of Organization: WASA Rawalpindi

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1. ہم جا کر اپنے آپریٹرز کو اسکل Training کروائیں گے۔ اور جو کچھ ٹریننگ میں سیکھا ہے
اسکے بارے میں ان کو بتائیں گے اور ان سے اپنی نگرانی میں کام کروائیں گے اور
5-S کی افادیت بھی بتائیں گے۔ اور اس کو Implement بھی کروائیں گے۔ اپنے
تمام سائٹس پر بھی اور اپنے Pump ہاؤس میں بھی لگائیں گے

Please identify a site (in your organization) to implement the above training concepts.

Site: Bulk water Supply water Works No #01 Sufaid Tanki Saidpur Road Rawalpindi

Please provide a date by which you will implement the above trainings concepts.

Date:

Person Responsible (Your Name): Sadeer AHMED ABBASI.

Other Comments or Notes:

[signature] 5/01/2018

اس کے بعد تقریبا ایک ماہ کا عرصہ درکار ہوگا۔ انشاء اللہ ہم اپنا
Knowledge آگے والوں میں Transfer کریں گے۔ اور اپنے site پر

ماحول پہلے سے بہتر بنا ہوگا۔ انشاء اللہ Time NEXT

جب آپ وزٹ کریں گے تو آپ لوگوں کو انشاء اللہ پہلے سے

کچھ بہتری نظر آئے گی۔ اور آپ لوگوں کو site پر S-S

کے Tag آویزاں ہوئے نظر آئیں گے۔

Annex 4.54
Action Plan for Asset Management in Fall 2017

AssetId	Manufacturer	Vehicle Owner	Condtion	Residual Life	Risk Level	Remarks	Operation Status	Vehicle Model
020000000000020120-441	Suzuki	Wasa RWP	B	10 Year	Low		Operational	2008
020000000000020120-1221	Messy Forgosen	Wasa Rawalpindi	C	5 Year	Low		Operational	1947
020000000000020120-641	Toyota / Corolla	Wasa RWP	C	5 Year	Low		Operational	1987
020000000000020120-1201	Hino	Wasa Rawalpindi	B	10 Year	Low		Operational	2009
020000000000020120-781	Honda CD-70	Wasa Rawalpindi	B	10 Year	Low		Operational	2008
020000000000020120-1141	Toyota	Wasa Rawalpindi	C	5 Year	Low		Operational	1998
020000000000020120-471	Suzuki	Wasa RWP	B	10 Year	Low		Operational	2006
020000000000020120-1181	Hino	Wasa Rawalpindi	B	10 Year	Low		Operational	2009
020000000000020120-1041	Nissan	Wasa Rawalpindi	F	ZERO	High		Operational	1986
020000000000020120-1081	Nissan	Wasa Rawalpindi	C	5 Year	Low		Operational	1986
020000000000020120-681	Honda	Wasa RWP	B	10 Year	Low		Operational	2007
020000000000020120-291	Honda	Wasa Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-11	Mazda	Wasa RWP	C	5 Year	Low		Operational	1999
020000000000020120-861	Honda CD-70	Wasa Rawalpindi	B	10 Year	Low		Operational	2003
020000000000020120-931	Honda CD-70	Wasa Rawalpindi	B	10 Year	Low		Operational	2010
020000000000020120-521	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1990
020000000000020120-461	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1996
020000000000020120-421	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1999
020000000000020120-111	Mazda	Wasa RWP	C	5 Year	Low		Operational	2000
020000000000020120-81	Mazda	Wasa RWP	C	5 Year	Low		Operational	2000
020000000000020120-231	Toyota / Corolla	Wasa RWP	B	10 Year	Low		Operational	1995
020000000000020120-161	Hino	Wasa RWP	B	10 Year	Low		Operational	2008
020000000000020120-1	Mazda	Wasa Rwp	C	5 Year	Low		Operational	1999
020000000000020120-1291	Nissan		B	10 Year	Low		Operational	2000

AssetId	Manufacturer	Vehicle Owner	Condtion	Residual Life	Risk Level	Remarks	Operation Status	Vehicle Model
020000000000020120-431	Suzuki	Wasa RWP	B	10 Year	Low		Operational	2008
020000000000020120-31	Mazda	Wasa RWP	C	5 Year	Low		Operational	1999
020000000000020120-251	SUZUKI KHAYBER	Wasa RWP	B	10 Year	Low		Operational	1999
020000000000020120-1131	Suzuki	Wasa Rawalpindi	C	5 Year	Low		Operational	1997
020000000000020120-1161	Toyota	Wasa Rawalpindi	B	10 Year	Low		Operational	2001
020000000000020120-241	Corolla	Wasa RWP	B	10 Year	Low		Operational	2005
020000000000020120-721	Honda	Wasa Rwp	B	10 Year	Low		Operational	2001
020000000000020120-831	Yamaha	Wasa Rawalpindi	B	10 Year	Low		Operational	2000
020000000000020120-981	Yamaha	Wasa Rawalpindi	B	10 Year	Low		Operational	2006
020000000000020120-1091	Hyundai Shehzore	Wasa Rawalpindi	B	10 Year	Low		Operational	2000
020000000000020120-21	Mazda	Wasa RWP	C	5 Year	Low		Operational	1999
020000000000020120-281	Honda	Wasa Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-691	Yamaha	Wasa RWP	B	10 Year	Low		Operational	2006
020000000000020120-311	HONDA 125	Wasa Rawalpindi	B	10 Year	Low		Operational	2000
020000000000020120-261	Suzuki	Wasa RWP	B	10 Year	Low		Operational	1998
020000000000020120-531	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1998
020000000000020120-851	HONDA 125	Wasa Rawalpindi	B	10 Year	Low		Operational	2001
020000000000020120-961	HONDA 125	Wasa Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-1211	Tractor	Wasa Rawalpindi	F	Zero	High		Operational	1982
020000000000020120-971	Suzuki	Wasa Rawalpindi	C	5 Year	Low		Operational	1998
020000000000020120-151	Hino Dutro	Wasa RWP	B	10 Year	Low		Operational	2008
020000000000020120-541	SUZUKI KHAYBER	Wasa RWP	C	5 Year	Low		Operational	1995

AssetId	Manufacturer	Vehicle Owner	Condtion	Residual Life	Risk Level	Remarks	Operation Status	Vehicle Model
020000000000020120-951	Honda CD-70	Wasa Rawalpindi	B	10 Year	Low		Operational	2000
020000000000020120-601	Suzuki Car	Wasa RWP	C	5 Year	Low		Operational	1996
020000000000020120-591	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1996
020000000000020120-511	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1998
020000000000020120-1241	Hino	Wasa Rawalpindi	B	10 Year	Low		Operational	2008
020000000000020120-141	Hino Dutro	Wasa RWP	B	10 Year	Low		Operational	2008
020000000000020120-631	SUZUKI BELENS	Wasa RWP	C	5 Year	Low		Operational	1999
020000000000020120-1011	Honda CD-70	Wasa Rawalpindi	B	10 Year	Low		Operational	2010
020000000000020120-1281	Hino	Wasa Rawalpindi	B	10 Year	Low		Operational	2008
020000000000020120-811	Honda CD-70	Wasa Rawalpindi	C	5 Year	Low		Operational	2010
020000000000020120-581	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1998
020000000000020120-91	Mazda	Wasa RWP	C	5 Year	Low		Operational	2000
020000000000020120-331	HONDA 125	WASA Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-491	Suzuki	Wasa RWP	B	10 Year	Low		Operational	2006
020000000000020120-1311	Yamaha	WASA Rawalpindi	C	5 Year	Low		Operational	2000
020000000000020120-371	Suzuki	Wasa Rawalpindi	C	5 Year	Low		Operational	1998
020000000000020120-451	Suzuki	Wasa RWP	C	5 Year	Low		Operational	2000
020000000000020120-1151	Hyundai Shehzore	Wasa Rawalpindi	C	5 Year	Low		Operational	2000
020000000000020120-1071	Toyota	Wasa Rawalpindi	C	5 Year	Low		Operational	1998
020000000000020120-41	Mazda	Wasa RWP	C	5 Year	Low		Operational	1999
020000000000020120-561	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1996
020000000000020120-1051	Suzuki	Wasa Rawalpindi	C	5 Year	Low		Operational	2000

AssetId	Manufacturer	Vehicle Owner	Condtion	Residual Life	Risk Level	Remarks	Operation Status	Vehicle Model
020000000000020120-181	Hino	Wasa RWP	B	10 Year	Low		Operational	2008
020000000000020120-201	Hino	Wasa RWP	B	10 Year	Low		Operational	2008
020000000000020120-271	Suzuki cultus	Wasa RWP	B	10 Year	Low		Operational	2001
020000000000020120-401	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1999
020000000000020120-101	Mazda	Wasa RWP	C	5 Year	Low		Operational	2000
020000000000020120-821	Yamaha	Wasa Rawalpindi	C	5 Year	Low		Operational	2006
020000000000020120-1171	Hino	Wasa Rawalpindi	B	10 Year	Low		Operational	2009
020000000000020120-891	HONDA 125	Wasa Rawalpindi	C	5 Year	Low		Operational	2007
020000000000020120-1321	Honda	WASA Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-411	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1998
020000000000020120-701	Honda	Wasa RWP	C	5 Year	Low		Operational	2010
020000000000020120-911	Honda CD-70	Wasa Rawalpindi	C	5 Year	Low		Operational	2010
020000000000020120-651	Honda	Wasa RWP	C	5 Year	Low		Operational	1999
020000000000020120-301	Honda	Wasa Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-121	Hino	Wasa RWP	B	10 Year	Low		Operational	2008
020000000000020120-1301	Nissan	Wasa Rawalpindi	C	5 Year	Low		Operational	2000
020000000000020120-131	Hino	Wasa RWP	B	10 Year	Low		Operational	2008
020000000000020120-1121	Mazda	Wasa Rawalpindi	C	5 Year	Low		Operational	1996
020000000000020120-1101	Hyundai Shehzore	Wasa Rawalpindi	B	10 Year	Low		Operational	2006
020000000000020120-321	HONDA 125	Wasa Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-1021	Honda CD-70	Wasa Rawalpindi	B	10 Year	Low		Operational	2010
020000000000020120-1261	Nissan	Wasa Rawalpindi	B	10 Year	Low		Operational	2000

AssetId	Manufacturer	Vehicle Owner	Condtion	Residual Life	Risk Level	Remarks	Operation Status	Vehicle Model
020000000000020120-1001	HONDA 125	Wasa Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-1231	Massey Forgosen	Wasa Rawalpindi	B	10 Year	Low		Operational	2002
020000000000020120-71	Mazda	Wasa RWP	C	5 Year	Low		Operational	2000
020000000000020120-481	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1999
020000000000020120-791	HONDA 125	Wasa Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-1031	HONDA 125	Wasa Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-1061	Suzuki	Wasa Rawalpindi	B	10 Year	Low		Operational	2000
020000000000020120-381	Suzuki	Wasa RWP	B	10 Year	Low		Operational	2000
020000000000020120-391	Suzuki	Wasa RWP	B	10 Year	Low		Operational	2006
020000000000020120-191	Hino	Wasa RWP	B	10 Year	Low		Operational	2008
020000000000020120-921	HONDA 125	Wasa Rawalpindi	B	10 Year	Low		Operational	2010
020000000000020120-51	Mazda	Wasa RWP	C	5 Year	Low		Operational	2000
020000000000020120-741	Yamaha	Wasa Rwp	B	10 Year	Low		Operational	2000
020000000000020120-771	Honda CD-70	Wasa Rawalpindi	B	10 Year	Low		Operational	2010
020000000000020120-881	HONDA 125	Wasa Rawalpindi	B	10 Year	Low		Operational	2007
020000000000020120-221	Suzuki Car	Wasa RWP	B	10 Year	Low		Operational	2006
020000000000020120-341	HONDA 125	Wasa Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-991	HONDA 125	Wasa Rawalpindi	B	10 Year	Low		Operational	2000
020000000000020120-901	Honda CD-70	Wasa Rawalpindi	B	10 Year	Low		Operational	2008
020000000000020120-351	Honda CD-70	Wasa Rawalpindi	B	10 Year	Low		Operational	2003
020000000000020120-551	Suzuki	Wasa RWP	B	10 Year	Low		Operational	2006
020000000000020120-621	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1996

AssetId	Manufacturer	Vehicle Owner	Condtion	Residual Life	Risk Level	Remarks	Operation Status	Vehicle Model
020000000000020120-1191	Hino	Wasa Rawalpindi	B	10 Year	Low		Operational	2009
020000000000020120-1111	Suzuki	Wasa Rawalpindi	B	10 Year	Low		Operational	2000
020000000000020120-171	Hino	Wasa RWP	B	10 Year	Low		Operational	2008
020000000000020120-871	HONDA 125	Wasa Rawalpindi	B	10 Year	Low		Operational	2007
020000000000020120-841	HONDA 125	Wasa Rawalpindi	B	10 Year	Low		Operational	2001
020000000000020120-1271	Hino	Wasa Rawalpindi	B	10 Year	Low		Operational	2008
020000000000020120-671	Honda	Wasa RWP	B	10 Year	Low		Operational	2006
020000000000020120-751	Honda	Wasa RWP	C	5 Year	Low		Operational	1999
020000000000020120-501	Suzuki	Wasa RWP	B	10 Year	Low		Operational	2006
020000000000020120-731	Honda	Wasa RWP	B	10 Year	Low		Operational	2001
020000000000020120-761	HONDA 125	Wasa Rawalpindi	B	10 Year	Low		Operational	2001
020000000000020120-661	Yamaha	Wasa RWP	B	10 Year	Low		Operational	2006
020000000000020120-941	Yamaha	Wasa Rawalpindi	B	10 Year	Low		Operational	2000
020000000000020120-61	Mazda	Wasa RWP	B	10 Year	Low		Operational	2000
020000000000020120-361	Suzuki	Wasa RWP	B	10 Year	Low		Operational	1998
020000000000020120-211	Suzuki	Wasa RWP	B	10 Year	Low		Operational	2006
020000000000020120-1251	Hino	Wasa Rawalpindi	B	10 Year	Low		Operational	2008
020000000000020120-801	HONDA 125	Wasa Rawalpindi	C	5 Year	Low		Operational	1999
020000000000020120-711	Honda	Wasa RWP	B	10 Year	Low		Operational	2007
020000000000020120-571	Suzuki	Wasa RWP	B	10 Year	Low		Operational	2006
020000000000020120-611	Suzuki	Wasa RWP	C	5 Year	Low		Operational	1995

Chassis Number	Engin Capacity	Engin Number	Market Value	Mileage Covered	Register Number	Vehicle Model1	Vechicle Category	Drive Type	Engin Capacity1	Engin Number1
JSAFJB43V00352123	1328	M13A-2033198	0	0	RIG-1087	2008	151	135	1328	M13A-2033198
85607ML	0	171201	0	0	RPT-8654	1998	150	135	MF-375	171201
EE90-3005367	1300	0946898-2E	0	0	RIX6531	1987	151	135	1300	0946898-2E
JHFYF-20H706001749	4009	JM-11850	0	0	RIS-09-1435	2009	150	135	4009	JM-11850
4455456	70	JC 674297	30000	0	RIG 2159	2008	151	136	70	JC 674297
166957	2400	4593613	0	0	RPT-4031	1998	151	135	2400	4593613
335160	970	J110909	0	0	RLF-852	2006	151	135	970	J110909
JHFYF-20H706001748	4009	JM-11849	0	0	RIS-09-1436	2009	150	135	4009	JM-11849
545432	2289	175854	0	0	RIN-1802	1986	151	136	2289	175854
629	2500	97209	0	0	RW-1991	1986	151	135	2500	97209
H69205	125	3179366	65000	0	RLG-1143	2007	151	135	125	3179366
B-88860	125	1088521	25000	0	RIY 4165	1999	151	136	125	1088521
208209	3500	S10470	450000	200055	Un-Register	1999	150	135	3500	S10470
BE-457022	70	1414403	25000	0	RI 3283	2003	151	136	70	1414403
JD-313427	125	4959348	35000	0	RIY 1005	2010	151	136	125	4959348
312486	1000	917907	0	0	RIT 3478	1990	151	135	1000	917907
323493	800	J105886	0	0	RIV 2310	1996	151	135	800	J105886
460630	993	A148308	0	0	RIX4834	1999	151	135	993	A148308
JHFYF20H706001054	100	5M11155	1500000	96000	RIG 08-1096	2000	150	135	100	5M11155
20829	3455	S10658	500000	200129	RPT 5622	2000	150	135	3455	S10658
9532249	1300	2777524	0	0	RIV-3835	1995	151	135	1300	2777524
JHFYF20H506001134	105	JM 11235	1600000	47000	RIG-1104	2008	150	135	105	JM 11235
S10398	3500	208194	650000	200198	Un-Register	1999	150	135	3500	208194
CPA87G01840	210	70226	0	0	unregistered	2000	150	135	210	70226

Chassis Number	Engin Capacity	Engin Number	Market Value	Mileage Covered	Register Number	Vehicle Model1	Vechicle Category	Drive Type	Engin Capacity1	Engin Number1
JSAFJB43V00352187	1328	M13A-2033107	0	0	RIG-1088	2008	151	135	1328	M13A-2033107
208193	3500	S10395	45000	200096	Un-Register	1999	150	135	3500	S10395
458109	993	145805	0	0	RIX3301	1999	151	135	993	145805
226839	796	T122196	0	0	RPT-2990	1997	151	135	796	T122196
53383	2400	5014600	0	0	Un-Reg	2001	151	135	2400	5014600
NZE120-6022669	1299	X290144	0	0	RLB-898	2005	151	135	1299	X290144
C16611	125	1317029	25000	0	RIX 9659	2001	151	136	125	1317029
5ES-103113K	100	5ES-103113K	20000	0	RIX-6836	2000	151	136	100	5ES-103113K
3B11-009922-K	100	3B11-009922-K	45000	0	RGL-6398	2006	151	136	100	3B11-009922-K
AUDF150590	2600	D4BBX254942	0	0	RPT-6216	2000	151	135	2600	D4BBX254942
208210	3500	S10473	400000	200105	Un-Register	1999	150	135	3500	S10473
C-16800	125	1317175	25000	0	RIY 2159	1999	151	136	125	1317175
3B11008599K	100	3B118599K	30000	0	RLF 7207	2006	151	135	100	3B118599K
C-02781	125	1302579	25000	0	RIY 7002	2000	151	136	125	1302579
746975	796	B208480	0	0	GAK 9559	1998	151	135	796	B208480
324841	970	106772	0	0	RIW-5481	1998	151	135	970	106772
C-17179	125	13174779	25000	0	RIX-9658	2001	151	136	125	13174779
B-89504	125	1089224	25000	0	RIX-4166	1999	151	136	125	1089224
O	265	16884		0	RIN-3552	1982	150	135	265	16884
A-100-126213	100	A-100-126213	20000	0	RIW-7390	1998	151	136	100	A-100-126213
JHFYF20H906001010	105	JM 11111	1500000	97000	RIG 08-1099	2008	150	135	105	JM 11111
434045	1000	A121802	0	0	RIV3444	1995	151	135	1000	A121802

Chassis Number	Engin Capacity	Engin Number	Market Value	Mileage Covered	Register Number	Vehicle Model1	Vechicle Category	Drive Type	Engin Capacity1	Engin Number1
C-11323	125	1311343	28000	0	RIX-8354	2000	151	136	125	1311343
SF413P.K.917158	1300	P101166	0	0	RIV8073	1996	151	135	1300	P101166
437078	1000	A124818	0	0	RIV 8076	1996	151	135	1000	A124818
324635	970	J703216	0	0	RIW6425	1998	151	135	970	J703216
FGIJKPB14604	210	JO8CFM18245	0	0	RIS-09-1357	2008	150	135	210	JO8CFM18245
JHFYF20H906001055	105	JM11156	1400000	100000	RIG-08-1097	2008	150	135	105	JM11156
501532	1298	600320	0	0	RIX 1765	1999	151	135	1298	600320
JC-711205	70	4486389	35000	0	RIL-1970	2010	151	136	70	4486389
FGIJKPB14554	210	JO8CFM17610	0	0	RIG-1029	2008	150	135	210	JO8CFM17610
JD-314646	70	4960567	35000	0	RIJ 1004	2010	151	136	70	4960567
324666	970	J703220	0	0	RIW 6765	1998	151	135	970	J703220
15906	3500	13348	550000	300000	Un-Register	2000	150	135	3500	13348
A-100-127321	100	A-100-127321	18000	0	RIX-2029	1999	151	136	100	A-100-127321
335163	970	J110911	0	0	RLF854	2006	151	135	970	J110911
5ES-103203K	100	5ES-103203K	20000	0	RIX-6833	2000	151	136	100	5ES-103203K
A-100-1262230	100	A-100-1262730	18000	0	RW-7391	1998	151	136	100	A-100-1262730
330543	970	J107974	0	0	RIX 8262	2000	151	135	970	J107974
AUDF-101589	2600	D4BBY252979	0	0	RPT-6217	2000	151	135	2600	D4BBY252979
166958	2400	4543758	0	0	Rpt-4032	1998	151	135	2400	4543758
S10472	3500	208211	500000	200210	Un-Register	1999	150	135	3500	208211
323557	1000	J105949	0	0	RIV 6720	1996	151	135	1000	J105949
232182	796	T127524	0	0	Rpt-5617	2000	151	135	796	T127524

Chassis Number	Engin Capacity	Engin Number	Market Value	Mileage Covered	Register Number	Vehicle Model1	Vechicle Category	Drive Type	Engin Capacity1	Engin Number1
JHFYF20H206001057	105	JM 11158	1650000	79000	RIG-1098	2008	150	135	105	JM 11158
JHFYF20H306001133	105	JM11234	1600000	75000	RIG-1103	2008	150	135	105	JM11234
945783	993	335771	0	0	RIX9544	2001	151	135	993	335771
457642	993	145394	0	0	RIX-2256	1999	151	135	993	145394
411-1851	3500	15905	550000	273006	Un-Register	2000	150	135	3500	15905
3B11-009862-K	100	3B11-009862-K	25000	0	RIG 6399	2006	151	136	100	3B11-009862-K
JHFYF-20H706001734	4009	JM-118335	0	0	RIS-09-1434	2009	150	135	4009	JM-118335
H-66297	125	3176659	65000	0	RIG 1147	2007	151	136	125	3176659
B-79922	125	1079598	25000		RIX-2062	1999	151	136	125	1079598
848517	796	T732013	0	0	RIW 7124	1998	151	135	796	T732013
JC 708154	70	4483328	45000	0	RIL 1971	2010	151	136	70	4483328
JD-313512	70	4959332	35000	0	RIJ 1002	2010	151	136	70	4959332
C16126	125	1316545	25000	0	RIY-2158	1999	151	136	125	1316545
B-89151	125	108882	25000	0	RIX-4168	1999	151	136	125	108882
JHFYF206001132	105	JM 11233	1400000	96000	RIG 1102	2008	150	135	105	JM 11233
PKB211G-00180	210	80928	25000	0	Un-Reg	2000	150	135	210	80928
JHFY20H806000950	105	JM11051	1800000	67500	RIG1095	2008	150	135	105	JM11051
635775	2200	441287	0	0	RIY-9426	1996	151	135	2200	441287
130698	2600	6272417		0	RIG-07-1011	2006	151	135	2600	6272417
A-100-127332	100	A-100-127332	18000	0	RIX-2849	1999	151	136	100	A-100-127332
JC-703103	70	4478295	35000	0	Unread	2010	151	136	70	4478295
3000124	210	996303	0	0	Un-Reg	2000	150	135	210	996303

Chassis Number	Engin Capacity	Engin Number	Market Value	Mileage Covered	Register Number	Vehicle Model1	Vechicle Category	Drive Type	Engin Capacity1	Engin Number1
B-9012	125	1090632	25000	0	RIY-4307	1999	151	136	125	1090632
122777	100	588945-H	0	0	RPT-8950	2002	150	135	100	588945-H
0	3500	Nil	500000	0	RPT 5621	2000	150	135	3500	Nil
325693	970	J703376	0	0	RIX 3085	1999	151	135	970	J703376
B-88888	125	1088568	25000	0	RIX-4167	1999	151	136	125	1088568
B-87791	125	1087335	25000	0	RIY-3648	1999	151	136	125	1087335
232185	796	T127522	0	0	Rpt-5620	2000	151	136	796	T127522
944059	993	F334066	0	0	RIX-8872	2000	151	135	993	F334066
363641	993	F395580	0	0	RLF-864	2006	151	135	993	F395580
JHFYF20HX06001131	105	JM 11232	1500000	57000	RIG-1101	2008	150	135	105	JM 11232
JD-317943	70	4963863	35000	0	RIJ 1003	2010	151	136	70	4963863
208303	3455	S10668	500000	200148	RPT 5623	2000	150	135	3455	S10668
5ES-103230K	100	5ES-103230K	20000	0	RIX 6834	2000	151	136	100	5ES-103230K
JD-314769	70	4960654	35000	0	RIJ 1006	2010	151	136	70	4960654
H-69191	125	3179539	65000	0	RIG 1145	2007	151	136	125	3179539
202808	1300	H203418	0	0	RLE2790	2006	151	135	1300	H203418
B-81272	125	1080883	25000	0	RIX-1764	1999	151	136	125	1080883
C-06490	125	1306475	28000	0	RIX-7919	2000	151	136	125	1306475
4455339	70	JC 674155	45000	0	RIG 1117	2008	151	136	70	JC 674155
BE-455141	70	1414034	30000	0	RIX-3281	2003	151	136	70	1414034
335164	970	J110910	0	0	RLF 851	2006	151	135	970	J110910
916488	1300	F314471	0	0	RIV6721	1996	151	135	1300	F314471

Chassis Number	Engin Capacity	Engin Number	Market Value	Mileage Covered	Register Number	Vehicle Model1	Vechicle Category	Drive Type	Engin Capacity1	Engin Number1
JHFYF-20H706001747	4009	JM-11848	0	0	RIS-09-1437	2009	150	135	4009	JM-11848
232179	796	T127517	0	0	Rpt-5618	2000	151	135	796	T127517
JHFYF20H806001130	105	JM11231	1650000	80000	RIG 1100	2008	150	135	105	JM11231
H-66290	125	3176668	65000	0	RIG 1144	2007	151	136	125	3176668
C-15071	125	1315496	25000	0	RIX-9654	2001	151	136	125	1315496
FGIJKPB14592	210	JO8CFM18047	0	0	RIS-09-1356	2008	150	135	210	JO8CFM18047
JC136487	70	4014322	35000	0	RLF 5095	2006	151	135	70	4014322
C09837	125	609809	25000	0	RIX8248	1999	151	136	125	609809
335166	970	J110915	0	0	RLF853	2006	151	135	970	J110915
c12012	125	1312205	25000	0	RIX8941	2001	151	136	125	1312205
C-11960	125	1312077	25000	0	RIX-8853	2001	151	136	125	1312077
3B11009177K	100	3B11009177K	30000	0	RLF 7218	2006	151	136	100	3B11009177K
5ES-103166K	100	5ES-103166K	28000	0	RIX-6835	2000	151	136	100	5ES-103166K
208296	3500	S10654	675000	200035	RPT 5625	2000	150	135	3500	S10654
450042	993	A137739	0	0	RIW-6196	1998	151	135	993	A137739
204288	1328	H205189	0		RLE-988	2006	151	135	1328	H205189
FGIJKPB14555	210	JO8CFM17611	0	0	RIG-09-1030	2008	150	135	210	JO8CFM17611
C-11244	125	1311431	25000	0	RIX-8347	1999	151	136	125	1311431
H65938	125	3176330	65000	0	RIG 1146	2007	151	136	125	3176330
335165	970	J110905	0	0	RLF 857	2006	151	135	970	J110905
914705	1300	F313017	0	0	RIV8072	1995	151	135	1300	F313017

Chassis Number1	Mileage Covered1	Market Value1	FormNo	Org	Department	City Name
JSAFJB43V00352123	0	0	020-1-3-0036	WASA-RWP	WASA-RWP	RWP
85607ML	0	0	020-1-3-0125	WASA-RWP	WASA-RWP	RWP
EE90-3005367	0	0	020-1-3-0056	WASA-RWP	WASA-RWP	RWP
JHFYF-20H706001749	0	0	020-1-3-0123	WASA-RWP	WASA-RWP	RWP
4455456	0	30000	020-1-3-0081	WASA-RWP	WASA-RWP	RWP
166957	0	0	020-1-3-0117	WASA-RWP	WASA-RWP	RWP
335160	0	0	020-1-3-0039	WASA-RWP	WASA-RWP	RWP
JHFYF-20H706001748	0	0	020-1-3-0121	WASA-RWP	WASA-RWP	RWP
545432	0	0	020-1-3-0107	WASA-RWP	WASA-RWP	RWP
629	0	0	020-1-3-0111	WASA-RWP	WASA-RWP	RWP
H69205	0	65000	020-1-3-0060	WASA-RWP	WASA-RWP	RWP
B-88860	0	25000	020-1-3-0069	WASA-RWP	WASA-RWP	RWP
208209	200055	450000	020-1-3-0002	WASA-RWP	WASA-RWP	RWP
BE-457022	0	25000	020-1-3-0089	WASA-RWP	WASA-RWP	RWP
JD-313427	0	35000	020-1-3-0096	WASA-RWP	WASA-RWP	RWP
312486	0	0	020-1-3-0044	WASA-RWP	WASA-RWP	RWP
323493	0	0	020-1-3-0038	WASA-RWP	WASA-RWP	RWP
460630	0	0	020-1-3-0034	WASA-RWP	WASA-RWP	RWP
JHFYF20H706001054	96000	1500000	020-1-3-0012	WASA-RWP	WASA-RWP	RWP
20829	200129	500000	020-1-3-0009	WASA-RWP	WASA-RWP	RWP
9532249	0	0	020-1-3-0024	WASA-RWP	WASA-RWP	RWP
JHFYF20H506001134	47000	1600000	020-1-3-0017	WASA-RWP	WASA-RWP	RWP
S10398	200198	650000	020-1-3-0001	WASA-RWP	WASA-RWP	RWP
CPA87G01840	0	0	020-1-3-0132	WASA-RWP	WASA-RWP	RWP

Chassis Number1	Mileage Covered1	Market Value1	FormNo	Org	Department	City Name
JSAFJB43V00352187	0	0	020-1-3-0035	WASA-RWP	WASA-RWP	RWP
208193	200096	45000	020-1-3-0004	WASA-RWP	WASA-RWP	RWP
458109	0	0	020-1-3-0026	WASA-RWP	WASA-RWP	RWP
226839	0	0	020-1-3-0116	WASA-RWP	WASA-RWP	RWP
53383	0	0	020-1-3-0119	WASA-RWP	WASA-RWP	RWP
NZE120-6022669	0	0	020-1-3-0025	WASA-RWP	WASA-RWP	RWP
C16611	0	25000	020-1-3-0064	WASA-RWP	WASA-RWP	RWP
5ES-103113K	0	20000	020-1-3-0086	WASA-RWP	WASA-RWP	RWP
3B11-009922-K	0	45000	020-1-3-0101	WASA-RWP	WASA-RWP	RWP
AUDF150590	0	0	020-1-3-0112	WASA-RWP	WASA-RWP	RWP
208210	200105	400000	020-1-3-0003	WASA-RWP	WASA-RWP	RWP
C-16800	0	25000	020-1-3-0068	WASA-RWP	WASA-RWP	RWP
3B11008599K	0	30000	020-1-3-0061	WASA-RWP	WASA-RWP	RWP
C-02781	0	25000	020-1-3-0071	WASA-RWP	WASA-RWP	RWP
746975	0	0	020-1-3-0027	WASA-RWP	WASA-RWP	RWP
324841	0	0	020-1-3-0045	WASA-RWP	WASA-RWP	RWP
C-17179	0	25000	020-1-3-0088	WASA-RWP	WASA-RWP	RWP
B-89504	0	25000	020-1-3-0099	WASA-RWP	WASA-RWP	RWP
O	0		020-1-3-0124	WASA-RWP	WASA-RWP	RWP
A-100-126213	0	20000	020-1-3-0100	WASA-RWP	WASA-RWP	RWP
JHFYF20H906001010	97000	1500000	020-1-3-0016	WASA-RWP	WASA-RWP	RWP
434045	0	0	020-1-3-0046	WASA-RWP	WASA-RWP	RWP

Chassis Number1	Mileage Covered1	Market Value1	FormNo	Org	Department	City Name
C-11323	0	28000	020-1-3-0098	WASA-RWP	WASA-RWP	RWP
SF413P.K.917158	0	0	020-1-3-0052	WASA-RWP	WASA-RWP	RWP
437078	0	0	020-1-3-0051	WASA-RWP	WASA-RWP	RWP
324635	0	0	020-1-3-0043	WASA-RWP	WASA-RWP	RWP
FGIJKPB14604	0	0	020-1-3-0127	WASA-RWP	WASA-RWP	RWP
JHFYF20H906001055	100000	1400000	020-1-3-0015	WASA-RWP	WASA-RWP	RWP
501532	0	0	020-1-3-0055	WASA-RWP	WASA-RWP	RWP
JC-711205	0	35000	020-1-3-0104	WASA-RWP	WASA-RWP	RWP
FGIJKPB14554	0	0	020-1-3-0131	WASA-RWP	WASA-RWP	RWP
JD-314646	0	35000	020-1-3-0084	WASA-RWP	WASA-RWP	RWP
324666	0	0	020-1-3-0050	WASA-RWP	WASA-RWP	RWP
15906	300000	550000	020-1-3-0010	WASA-RWP	WASA-RWP	RWP
A-100-127321	0	18000	020-1-3-0073	WASA-RWP	WASA-RWP	RWP
335163	0	0	020-1-3-0041	WASA-RWP	WASA-RWP	RWP
5ES-103203K	0	20000	020-1-3-0077	WASA-RWP	WASA-RWP	RWP
A-100-1262230	0	18000	020-1-3-0078	WASA-RWP	WASA-RWP	RWP
330543	0	0	020-1-3-0037	WASA-RWP	WASA-RWP	RWP
AUDF-101589	0	0	020-1-3-0118	WASA-RWP	WASA-RWP	RWP
166958	0	0	020-1-3-0110	WASA-RWP	WASA-RWP	RWP
S10472	200210	500000	020-1-3-0005	WASA-RWP	WASA-RWP	RWP
323557	0	0	020-1-3-0048	WASA-RWP	WASA-RWP	RWP
232182	0	0	020-1-3-0108	WASA-RWP	WASA-RWP	RWP

Chassis Number1	Mileage Covered1	Market Value1	FormNo	Org	Department	City Name
JHFYF20H206001057	79000	1650000	020-1-3-0019	WASA-RWP	WASA-RWP	RWP
JHFYF20H306001133	75000	1600000	020-1-3-0021	WASA-RWP	WASA-RWP	RWP
945783	0	0	020-1-3-0028	WASA-RWP	WASA-RWP	RWP
457642	0	0	020-1-3-0032	WASA-RWP	WASA-RWP	RWP
411-1851	273006	550000	020-1-3-0011	WASA-RWP	WASA-RWP	RWP
3B11-009862-K	0	25000	020-1-3-0085	WASA-RWP	WASA-RWP	RWP
JHFYF-20H706001734	0	0	020-1-3-0120	WASA-RWP	WASA-RWP	RWP
H-66297	0	65000	020-1-3-0092	WASA-RWP	WASA-RWP	RWP
B-79922		25000	020-1-3-0074	WASA-RWP	WASA-RWP	RWP
848517	0	0	020-1-3-0033	WASA-RWP	WASA-RWP	RWP
JC 708154	0	45000	020-1-3-0062	WASA-RWP	WASA-RWP	RWP
JD-313512	0	35000	020-1-3-0094	WASA-RWP	WASA-RWP	RWP
C16126	0	25000	020-1-3-0057	WASA-RWP	WASA-RWP	RWP
B-89151	0	25000	020-1-3-0070	WASA-RWP	WASA-RWP	RWP
JHFYF206001132	96000	1400000	020-1-3-0014	WASA-RWP	WASA-RWP	RWP
PKB211G-00180	0	25000	020-1-3-0133	WASA-RWP	WASA-RWP	RWP
JHFY20H806000950	67500	1800000	020-1-3-0013	WASA-RWP	WASA-RWP	RWP
635775	0	0	020-1-3-0115	WASA-RWP	WASA-RWP	RWP
130698	0		020-1-3-0113	WASA-RWP	WASA-RWP	RWP
A-100-127332	0	18000	020-1-3-0072	WASA-RWP	WASA-RWP	RWP
JC-703103	0	35000	020-1-3-0105	WASA-RWP	WASA-RWP	RWP
3000124	0	0	020-1-3-0129	WASA-RWP	WASA-RWP	RWP

Chassis Number1	Mileage Covered1	Market Value1	FormNo	Org	Department	City Name
B-9012	0	25000	020-1-3-0103	WASA-RWP	WASA-RWP	RWP
122777	0	0	020-1-3-0126	WASA-RWP	WASA-RWP	RWP
0	0	500000	020-1-3-0008	WASA-RWP	WASA-RWP	RWP
325693	0	0	020-1-3-0040	WASA-RWP	WASA-RWP	RWP
B-88888	0	25000	020-1-3-0082	WASA-RWP	WASA-RWP	RWP
B-87791	0	25000	020-1-3-0106	WASA-RWP	WASA-RWP	RWP
232185	0	0	020-1-3-0109	WASA-RWP	WASA-RWP	RWP
944059	0	0	020-1-3-0030	WASA-RWP	WASA-RWP	RWP
363641	0	0	020-1-3-0031	WASA-RWP	WASA-RWP	RWP
JHFYF20HX06001131	57000	1500000	020-1-3-0020	WASA-RWP	WASA-RWP	RWP
JD-317943	0	35000	020-1-3-0095	WASA-RWP	WASA-RWP	RWP
208303	200148	500000	020-1-3-0006	WASA-RWP	WASA-RWP	RWP
5ES-103230K	0	20000	020-1-3-0066	WASA-RWP	WASA-RWP	RWP
JD-314769	0	35000	020-1-3-0080	WASA-RWP	WASA-RWP	RWP
H-69191	0	65000	020-1-3-0091	WASA-RWP	WASA-RWP	RWP
202808	0	0	020-1-3-0023	WASA-RWP	WASA-RWP	RWP
B-81272	0	25000	020-1-3-0075	WASA-RWP	WASA-RWP	RWP
C-06490	0	28000	020-1-3-0102	WASA-RWP	WASA-RWP	RWP
4455339	0	45000	020-1-3-0093	WASA-RWP	WASA-RWP	RWP
BE-455141	0	30000	020-1-3-0076	WASA-RWP	WASA-RWP	RWP
335164	0	0	020-1-3-0047	WASA-RWP	WASA-RWP	RWP
916488	0	0	020-1-3-0054	WASA-RWP	WASA-RWP	RWP

Chassis Number1	Mileage Covered1	Market Value1	FormNo	Org	Department	City Name
JHFYF-20H706001747	0	0	020-1-3-0122	WASA-RWP	WASA-RWP	RWP
232179	0	0	020-1-3-0114	WASA-RWP	WASA-RWP	RWP
JHFYF20H806001130	80000	1650000	020-1-3-0018	WASA-RWP	WASA-RWP	RWP
H-66290	0	65000	020-1-3-0090	WASA-RWP	WASA-RWP	RWP
C-15071	0	25000	020-1-3-0087	WASA-RWP	WASA-RWP	RWP
FGIJKPB14592	0	0	020-1-3-0130	WASA-RWP	WASA-RWP	RWP
JC136487	0	35000	020-1-3-0059	WASA-RWP	WASA-RWP	RWP
C09837	0	25000	020-1-3-0067	WASA-RWP	WASA-RWP	RWP
335166	0	0	020-1-3-0042	WASA-RWP	WASA-RWP	RWP
c12012	0	25000	020-1-3-0065	WASA-RWP	WASA-RWP	RWP
C-11960	0	25000	020-1-3-0079	WASA-RWP	WASA-RWP	RWP
3B11009177K	0	30000	020-1-3-0058	WASA-RWP	WASA-RWP	RWP
5ES-103166K	0	28000	020-1-3-0097	WASA-RWP	WASA-RWP	RWP
208296	200035	675000	020-1-3-0007	WASA-RWP	WASA-RWP	RWP
450042	0	0	020-1-3-0029	WASA-RWP	WASA-RWP	RWP
204288		0	020-1-3-0022	WASA-RWP	WASA-RWP	RWP
FGIJKPB14555	0	0	020-1-3-0128	WASA-RWP	WASA-RWP	RWP
C-11244	0	25000	020-1-3-0083	WASA-RWP	WASA-RWP	RWP
H65938	0	65000	020-1-3-0063	WASA-RWP	WASA-RWP	RWP
335165	0	0	020-1-3-0049	WASA-RWP	WASA-RWP	RWP
914705	0	0	020-1-3-0053	WASA-RWP	WASA-RWP	RWP

NAME : CHANZAB KHAN (Assistant. Director).
SUB DIVISION: SHAMSABAD WASA RAWALPINDI

Name	Union Council	Locality	Operational Status	Physical Condition Of Pump	Physical Condition Of Motor	Lubricant Leakages Condition	Water Leakages	Electric Cable insulation	Electric Cable Sizing	Transformer Condition	Condition of Performance of Starter / Motor Control Unit
16-C	22	QAYUMABAD (NEW)	Operational	B	A	B	A	B	C	A	A
15-C	22	Taxi Stand Dh.Kala Khan	Operational	B	A	B	B	A	B	A	A
16	22	Qayyumabad Dh.Kala Khan	Operational	B	B	B	A	B	A	B	A
16-A	22	Murree Hazara Colony	Operational	A	B	B	B	A	B	A	C
17-D	22	Jinah Town Dh.Kala Khan	Operational	B	A	A	A	B	A	B	B
24-A	22	Model Colony Dh. Kala Khan	Operational	A	B	B	B	A	B	A	A
16-B	22	Farooq E Azam Road	Operational	A	A	A	A	B	A	B	B
16-D	22	Farooq E Azam Road	Operational	B	B	B	B	A	B	A	A
24-C	22	Rafiqabad	Operational	A	A	A	A	B	A	B	B
175	23	Bilal Colony Service Road	Operational	B	B	B	A	A	B	A	A
175-A	23	Bilal Colony	Operational	A	A	A	B	B	A	B	B
7	23	A-Block Gunj Bakhsh Road	Operational	B		B	A	A	B	A	A
19	23	Kiyani Bazar	Operational	A	B	A	B	B	A	B	B
20	23	Dh. Piracha OHR	Operational	B	A	B	A	A	B	A	A
174	23	Dh. Kashmirian	Operational	A	B	A	B	B	A	B	B
17-B	24	Ali Abad	Operational	B	A	B	A	A	B	A	A
25	24	Khajoor Wali gali	Operational	A	B	A	B	B	A	B	B
23	24	Dk. Punnoo	Operational	B	A	B	A	B	A	B	A
23-A	24	Dh. Ali Akber	Operational	A	B	A	B	A	A	A	B
24	24	Khana Kak	Operational	B	A	B	A	B	B	B	A
24-B	24	Ilyas Town Khanna Kak	Operational	A	B	A	B	A	A	A	B
24-D	24	Sheir Ahmed Rd Khanna Kak	Operational	B	A	B	A	B	B	B	A
23-B	24	IQBAL TOWN	Operational	A	B	A	B	A	B	A	B
23-C	24	Amna Masjid	Operational	A	A	B	A	B	A	B	A
19-B	25	Mujistrate Colony	Operational	B	B	A	B	A	B	A	B
26-A	25	GAZALI ROAD	Operational	A	A	B	A	B	A	B	A

Name	Union Council	Locality	Operational Status	Physical Condition Of Pump	Physical Condition Of Motor	Lubricant Leakages Condition	Water Leakages	Electric Cable insulation	Electric Cable Sizing	Transformer Condition	Condition of Performance of Starter / Motor Control Unit
26	25	Sadiqabad Mohammdi Masjid	Operational	B	B	A	B	A	B	A	B
19-A	25	Shaheen Colony	Operational	A	A	B	A	B	A	B	A
25-A	25	Mohalla Chaudharian S/Road	Operational	B	A	A	B	A	B	A	B
21	26	A-Block6th Road	Operational	A	B	B	A	B	A	B	A
22	26	A-Block6th Road	Operational	B	A	A	B	A	B	A	B
31-D	26	AVIATION PARK	Operational	A	B	B	A	B	A	B	A
170	26	ARSHI MASJID	Operational	B	A	A	B	A	B	A	B
35	26	AFANDI COLONY	Operational	A	B	B	A	B	A	B	A
35-A	26	AFANDI COLONY	Operational	B	A	A	B	A	B	A	B
36-A	26	BANGREEL MASJID	Operational	A	B	B	A	B	A	B	A
22-A	26	DOK MUNSHI	Operational	A	A	A	B	A	B	A	B
29-B	27	MUHALLA FAISALABAD	Operational	A	B	A	B	A	B	A	B
28-A	27	JAHANGI MUHALLA	Operational	B	A	B	A	B	A	B	A
29-A	27	CHAPTAN RAYAZ MARKET	Operational	A	B	A	B	A	B	A	B
28	27	AZHER SATTI PLOT	Operational	B	A	B	A	B	A	B	A
27	27	MILAD CHOWK	Operational	A	B	A	B	A	B	A	B
27-A	27	MUMDI CHOWK	Operational	B	A	B	A	B	A	B	A
27-B	27	AHMED STREET	Operational	A	B	A	B	A	B	A	B
28-B	27	HAJJI CHOWK	Operational	B	A	B	A	B	A	B	A
188	28	HAJJI CHOWK	Operational	A	B	A	B	A	A	A	B
30	28	PEPSI DEPU	Operational	B	A	B	A	B	B	B	A
30-A	28	AZAM HOTAL	Operational	A	B	A	B	A	B	A	B
31-C	28	GALI NO 3	Operational	B	A	B	A	B	A	B	A
31	28	GALI NO 2	Operational	A	B	A	B	A	B	A	B
31-A	28	Dr. QADEER STREET	Operational	B	A	B	A	B	A	B	A
31-B	28	GALI NO 5	Operational	A	B	A	B	A	B	A	B
32	29	BEHARI COLONY	Operational	B	A	B	A	A	B	B	A
32-B	29	BEHARI COLONY	Operational	A	B	A	B	B	A	A	B
32-A	29	KHURRM COLONY	Operational	B	A	B	A	A	B	B	A

Name	Union Council	Locality	Operational Status	Physical Condition Of Pump	Physical Condition Of Motor	Lubricant Leakages Condition	Water Leakages	Electric Cable insulation	Electric Cable Sizing	Transformer Condition	Condition of Performance of Starter / Motor Control Unit
33	29	RAJA KHALID	Operational	A	B	A	B	B	A	A	B
33-A	29	CH. TARIQ K COLONY	Operational	B	A	B	A	A	B	B	A
33-B	29	KHURRAM COLONY	Operational	A	B	A	B	B	A	A	B
32-D	29	KHURRAM COLONY	Operational	B	A	B	A	A	B	B	A
34	29	MARRIGE HALL	Operational	A	B	A	B	B	A	A	B
38	30	AMUR PURA	Operational	B	A	B	A	A	B	B	A
38-A	30	AMUR PURA	Operational	A	B	A	B	B	A	A	B
37	30	CHAH SULTAN	Operational	B	A	B	A	A	B	B	A
37-A	30	RAJA ISRAR	Operational	A	B	A	B	B	A	A	B
37-B	30	LALA ISRAR	Operational	B	A	B	A	A	B	B	A
36-B	30	C-BLOCK	Operational	A	B	A	B	B	A	A	B
45	31	HUKAM DAD MOHALLA	Operational	B	A	B	A	A	B	B	A
45-B	31	ISHTIAQ MIRZA	Operational	A	B	A	B	B	A	A	B
39	31	RAWAL ROAD	Operational	B	A	B	A	A	B	B	A
39-A	31	TAMASMABAD	Operational	A	B	A	B	B	A	A	B
40	31	CHAMRA GODAM	Operational	B	A	B	A	A	B	B	A
45(N	31	NAB COURT	Operational	A	B	A	B	B	A	A	B
45-A	31	G FACTORY	Operational	B	A	B	A	A	B	B	A
44	32	G FACTORY	Operational	A	B	A	B	B	A	A	B
42	32	GROUND Q.F	Operational	A	B	A	B	B	A	A	B
43	32	WARIS KHAN	Operational	B	A	B	A	A	B	B	A
43-B	32	WARIS KHAN	Operational	A	B	A	B	B	A	A	B
44-A	32	AMAR PURA TANKI	Operational	B	A	B	A	B	B	B	A
43-A	32	ZAFAR UL HAQ ROAD	Operational	A	B	A	B	A	A	A	B

Pump Vibration Status	Pump Noise Level	Motor Temperature Control	Piping Condition	Condition of Return Valve	Condition of Gate Valve	Condition of Air Release Valve	Chlorinator Condition	Civil Structure Condition of Assets	Ventilation Condition	Log Book	Discharge (Cusecs)	Pressure Head (3Ft)	Risk Level
A	B	A	B	A	A	B	B	Open	B	B	0.25	B	LOW
B	B	B	A	A	A	B	NIL	Open	B	C	0.35	B	LOW
A	A	A	B	B	B	A	B	A	A	C	0.25	C	MODARATE
B	B	B	A	A	A	B	NIL	B	B	C	0.4	B	LOW
A	A	A	B	B	B	A	B	Open	A	B	0.4	A	LOW
B	B	B	A	A	A	B	A	A	B	B	0.35	B	LOW
A	A	A	B	B	B	A	NIL	Open	A	B	0.25	A	LOW
B	B	B	A	A	A	B	NIL	Open	B	B	0.45	B	LOW
A	A	A	B	B	B	A	NIL	Open	A	B	0.35	A	LOW
B	B	B	A	A	A	B	B	A	B	B	0.4	B	LOW
A	A	A	B	B	B	A	B	A	A	B	0.4	A	LOW
B	B	B	A	A	A	B	B	A	B	B	0.34	B	LOW
A	A	A	B	B	B	A	A	B	A	B	0.45	A	LOW
B	B	B	A	A	A	B	B	A	B	A	0.29	C	LOW
A	A	A	B	B	B	A	B	B	A	C	0.3	B	LOW
B	B	B	A	A	A	B	C	A	B	C	0.15	A	HIGH.
A	A	A	B	B	B	A	B	B	A	C	0.5	B	LOW
B	B	B	A	A	A	B	B	B	B	B	0.25	A	LOW
A	A	A	B	B	B	A	NIL	Open	A	B	0.35	C	LOW
B	B	B	A	A	A	B	C	A	B	B	0.45	B	LOW
A	A	A	B	B	B	A	B	B	A	C	0.35	A	LOW
B	B	B	A	A	A	B	NIL	Open	B	C	0.36	B	LOW
A	B	A	B	A	B	A	NIL	Open	A	C	0.25	A	LOW
B	A	B	A	B	A	B	NIL	Open	B	C	0.35	B	LOW
A	B	A	B	A	B	A	NIL	A	A	B	0.25	A	LOW
B	A	B	A	B	A	B	NIL	Open	B	B	0.45	B	LOW

Pump Vibration Status	Pump Noise Level	Motor Temperature Control	Piping Condition	Condition of Return Valve	Condition of Gate Valve	Condition of Air Release Valve	Chlorinator Condition	Civil Structure Condition of Assets	Ventilation Condition	Log Book	Discharge (Cusecs)	Pressure Head (3Ft)	Risk Level
A	B	A	B	A	B	A	C	B	A	B	0.27	B	LOW
B	A	B	A	B	A	B	A	Open	B	C	0.25	C	MODARATE
A	B	A	B	A	B	A	NIL	Open	A	B	0.43	B	LOW
B	A	B	A	B	A	B	NIL	Open	B	C	0.28	C	LOW
A	B	A	B	A	B	A	NIL	Open	A	B	0.25	B	MODARATE
B	A	B	A	B	A	B	C	Open	B	C	0.28	C	LOW
A	B	A	B	A	B	A	A	A	A	C	0.5	B	LOW
B	A	B	A	B	A	B	B	A	B	C	0.45	A	LOW
A	B	A	B	A	B	A	B	A	A	A	0.36	C	LOW
B	A	B	A	B	A	B	C	B	B	C	0.25	C	LOW
A	B	A	B	A	B	A	NIL	Open	A	B	0.35	B	LOW
A	B	A	B	A	B	A	NIL	Open	A	B	0.3	A	LOW
B	A	B	A	B	A	B	A	B	B	B	0.3	B	LOW
A	B	A	B	A	B	A	B	B	B	A	0.4	A	LOW
B	A	B	A	B	A	B	C	B	A	B	0.35	B	LOW
A	B	A	A	A	B	A	B	B	B	B	0.34	A	LOW
B	A	B	A	B	A	B	NIL	B	A	B	0.35	C	LOW
A	B	A	B	A	B	A	NIL	Open	B	C	0.35	A	LOW
B	A	B	A	B	A	B	NIL	Open	A	C	0.45	B	LOW
A	B	A	B	A	B	A	NIL	B	B	B	0.39.	A	LOW
B	A	B	A	B	A	B	C	C	A	C	0.25	B	MODARATE
A	B	A	B	A	B	A	NIL	B	B	B	0.26	A	LOW
B	A	B	A	B	A	B	NIL	Open	A	C	0.25	B	MODARATE
A	B	A	B	A	B	A	B	B	B	B	0.25	A	LOW
B	A	B	A	B	A	B	NIL	Open	A	B	0.3	B	LOW
A	B	A	B	A	B	A	NIL	Open	B	B	0.45	A	LOW
B	A	B	A	B	A	B	NIL	Open	A	B	0.25	B	LOW
A	B	A	A	A	B	A	NIL	Open	B	C	0.29	A	LOW
B	A	B	B	B	A	B	B	A	A	C	0.38	B	LOW

Pump Vibration Status	Pump Noise Level	Motor Temperature Control	Piping Condition	Condition of Return Valve	Condition of Gate Valve	Condition of Air Release Valve	Chlorinator Condition	Civil Structure Condition of Assets	Ventilation Condition	Log Book	Discharge (Cusecs)	Pressure Head (3Ft)	Risk Level
A	B	A	A	A	B	A	C	B	B	B	0.4	A	LOW
B	A	B	B	B	A	B	C	B	A	C	0.3	B	LOW
A	B	A	A	A	B	A	NIL	Open	B	C	0.25	A	LOW
B	A	B	B	B	A	B	NIL	Open	A	C	0.28	B	LOW
A	B	A	A	A	B	A	NIL	Open	B	C	0.3	A	LOW
B	A	B	B	B	A	B	B	A	A	C	0.35	B	LOW
A	B	A	A	A	B	A	A	B	B	B	0.4	A	LOW
B	A	B	B	B	A	B	B	B	A	B	0.35	B	LOW
A	B	A	A	A	B	A	NIL	Open	B	B	0.3	A	LOW
B	A	B	B	B	A	B	NIL	Open	A	B	0.4	B	LOW
A	B	A	A	A	B	A	C	Open	B	C	0.45	A	LOW
B	A	B	B	B	A	B	B	B	A	B	0.3	B	LOW
A	B	A	A	A	B	A	NIL	Open	B	C	0.45	A	LOW
B	A	B	B	B	A	B	B	C	A	B	0.35	B	LOW
A	B	A	A	A	B	A	C	B	B	C	0.4	A	LOW
B	A	B	B	B	A	B	B	B	A	B	0.32	C	LOW
A	B	A	A	A	B	A	B	B	B	B	0.36	B	LOW
B	A	B	B	B	A	B	B	Open	A	B	0.25	C	MODARATE
A	B	A	A	A	B	A	B	B	B	B	0.3	B	LOW
A	B	A	A	A	B	A	NIL	Open	B	C	0.3	B	LOW
B	A	B	B	B	A	B	B	B	A	B	0.32	A	LOW
A	B	A	A	A	B	A	NIL	B	B	C	0.28	C	LOW
B	A	B	B	B	A	B	C	Open	A	B	0.14	B	HIGH
A	B	A	A	A	B	A	NIL	B	B	B	0.4	A	LOW

Exercise 4

Module 2

Please Grade your assets based on their condition using Ratings of USEPA GHD.

Asset	Category	Location	Code	Rating			
				Physical Condition	Asset Performance	Asset Reliability	Asset Condition Rating
faisal park	**tube wells**		180185010700020110-1861	**3**	**2**	2	2
Fateh Garh Dispencery	**tube wells**		180185010700020110-1821	**2**	**2**	1	2
Fateh Garh Pull	**tube wells**		180185010700020110-1811	**2**	**2**	1	2
Gowala Colony	**tube wells**		180185010300020110-1101961	**3**	**2**	2	2
Gulshan Park	**tube wells**		180185010700020110-1831	**3**	**2**	2	2
Iftikhar Park	**tube wells**		180185010300020110-1101991	**2**	**2**	1	2
Kareem Nagar	**tube wells**		180185010300020110-1102001	**3**	**2**	2	2
Kotli Gasi	**tube wells**		180185010700020110-1851	**2**	**2**	1	2
kotli pur Abdul Rehman	**tube wells**		180185010300020110-1102071	**3**	**2**	2	2
Maskeen Pura	**tube wells**		180185010700020110-1841	**5**	**5**	**5**	**5**
Mushtaq pura	**tube wells**		180185010300020110-1101311	**3**	**2**	2	2

Musliam Abad	**tube wells**		180185010300020110-1101331	**5**	**5**	**5**	**5**
Nadia Ghee Mill	**tube wells**		180185010300020110-1102051	**2**	**2**	1	2
Punj Pir	**tube wells**			**2**	**2**	1	2
qadir bux park	**tube wells**		180185010300020110-1101901	**3**	**2**	2	2
Qalandar Pura	**tube wells**		180185010300020110-1101981	**2**	**2**	1	2
Sahlimar Housing Scheem	**tube wells**		180185010300020110-1102031	**3**	**2**	2	2
Salamat Pura No: 5	**tube wells**		180185010300020110-1102011	**2**	**2**	1	2
Salamat Pura Takia	**tube wells**		180185010300020110-1102021	**3**	**2**	2	2
Shah Din Park	**tube wells**		180185010300020110-1102041	**5**	**5**	**5**	**5**

Disposal station

Manawan	**D/s**		180185010700020030-71	**3**	**2**	2	2

Physical Condition				
New/Excellent Condition	**Minor Defects Only**	**Moderate Deterioration**	**Significant Deterioration**	**Unservicable**
1	**2**	**3**	**4**	**5**

Asset Performance				
Meets Performance Targets	Minor Performance Deficiencies	Considerable Performance Deficiencies	Major Performance Deficiencies	Doesn't Meet Performance Targets
1	2	3	4	5

Asset reliability				
As Specified by Manufacturer	Random Breakdown	Occasional Breakdown	Periodic Breakdown	Continuous Breakdown
1	2	3	4	5

Asset Condition Rating				
Excellent	Good	Fair	Poor	Failing
1	2	3	4	5
A	B	C	D	F

Module 3

Exercise 5	Please make asset maintenance plan based on their Risk.

Code	Category	Asset Name	Location	Condition	Probability of Failure Rating	Impact Rating	Risk	Action Plan for Asset Management
	Tube well Station							
18018501070 0020110-1861		faisal park		**B**	2	**B**	**A**	regular maintenance
18018501070 0020110-1821		Fateh Garh Dispencery		**B**	1	**A**	**A**	regular maintenance
18018501070 0020110-1811		Fateh Garh Pull		**B**	1	**A**	**B**	preventive maintenance
18018501030 0020110-1101961		Gowala Colony		**B**	2	**B**	**B**	preventive maintenance
18018501070 0020110-1831		Gulshan Park		**B**	2	**B**	**A**	regular maintenance
18018501030 0020110-1101991		Iftikhar Park		**B**	1	**A**	**B**	preventive maintenance
18018501030 0020110-1102001		Kareem Nagar		**B**	2	**B**	**A**	regular maintenance
18018501070 0020110-1851		Kotli Gasi		**B**	1	**A**	**B**	preventive maintenance
18018501030 0020110-1102071		kotli pur Abdul Rehman		**B**	2	**B**	**A**	regular maintenance
18018501070 0020110-1841		Maskeen Pura		**F**	**5**	**F**	**F**	priority maintenance
18018501030 0020110-1101311		Mushtaq pura		**B**	2	**B**	**A**	regular maintenance

18018501030 0020110-1101331		Musliam Abad		**F**	**5**	**F**	**F**	priority maintenance
18018501030 0020110-1102051		Nadia Ghee Mill		**B**	1	**A**	**A**	regular maintenance
		Punj Pir		**B**	1	**A**	**B**	preventive maintenance
18018501030 0020110-1101901		qadir bux park		**B**	2	**B**	**A**	regular maintenance
18018501030 0020110-1101981		Qalandar Pura		**B**	1	**A**	**B**	preventive maintenance
18018501030 0020110-1102031		Sahlimar Housing Scheem		**B**	2	**B**	**A**	regular maintenance
18018501030 0020110-1102011		Salamat Pura No: 5		**B**	1	**A**	**B**	preventive maintenance
18018501030 0020110-1102021		Salamat Pura Takia		**B**	2	**B**	**B**	regular maintenance
18018501030 0020110-1102041		Shah Din Park		**F**	**5**	**F**	F	priority maintenance
	Disposal Station							
18018501070 0020030-71	**Manawan**			**B**	**2**	B	2	regular maintenance

Condition	**A**	**B**	**C**	**D**	**F**
Probability of Failure Rating	**1**	**2**	**3**	**4**	**5**

Impact	**Minor Component Failure**	**Major Component Failure**	**Asset Failure**	**Facility/ Sub-Division Failure**	**Total System Failure**
Scale Value	**1**	**2**	**3**	**4**	**5**

Probability	Impact (Criticality Assessment)				
	1	2	3	4	5
A	Low Risk	Low Risk	Low Risk	Moderate Risk	High Risk
B	Low Risk	Low Risk	Moderate Risk	High Risk	High Risk
C	Low Risk	Moderate Risk	High Risk	High Risk	Significant Risk
D	Moderate Risk	High Risk	High Risk	Significant Risk	Significant Risk
F	High Risk	High Risk	Significant Risk	Significant Risk	Significant Risk

Condtion	Failure Risk State			
	Low	Moderate	High	Significant
A	Regular Maintenance	Regular Maintenance	Preventive Maintenance	Priority Maintenance
B	Regular Maintenance	Preventive Maintenance	Priority Maintenance	Priority Maintenance
C	Preventive Maintenance	Priority Maintenance	Priority Maintenance	Immidiate Maintenance
D	Priority Maintenance	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance
F	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance	Immidiate Maintenance

Please Grade your assets based on their condition using Ratings of USEPA GHD.								
Asset	**Category**	**Location**	**Code**	**Rating**				
				Physical Condition	**Asset Performance**	**Asset Reliability**	**Asset Condition Rating**	**Overall condition rating**
Ashrafia Park	**Tubewell**	Mozang	180185010400020110-571	C	2	3	FAIR	B
Jinnah Garden	**Tubewell**	Mozang	180185010400010110-1	A	1	1	EXCELLENT	A
Kamal Street Poonch Road	**Tubewell**	Mozang	180185010400020110-581	D	4	5	POOR	C
Hamoon Shah	**Tubewell**	Mozang	180185010400020110-751	C	3	2	POOR	C
Lawrance Road	**Tubewell**	Mozang	180185010400020110-721	A	1	1	EXCELLENT	A
Shadman	**Tubewell**	Mozang	180185010400020110-751	A	1	1	EXCELLENT	A
Ashrafia Park	**Tubewell**	Mozang	180185010400020110-801	D	2	5	POOR	C
Jinnah Bagh	**Tubewell**	Mozang	180185010400020110-561	B	2	2	FAIR	B
Fashi Road	**Tubewell**	Mozang	180185010400020110-741	D	3	4	POOR	C
Abu Ishaq	**Tubewell**	Mozang	180185010400020110-801	C	2	3	POOR	C
Samnabad	**Tubewell**	Mozang	180185010400020110-561	C	2	3	GOOD	B
Fazlia Colony	**Tubewell**	Mozang	180185010400020110-791	D	3	4	FALLING	D
Lytton Road	**Tubewell**	Mozang	180185010400020110-781	C	3	3	FAIR	C

Aslam Iqbal Park	**Tubewell**	Mozang	180185010400020110-761	C	2	2	GOOD	B
Dara Street Pounch Road	**Tubewell**	Mozang	180185010400020110-731	C	2	3	FAIR	B
Ferozpur Road Underpass lift station	**Disposal station**	Mozang	180185010400020030-261	C	4	3	FAIR	B
Lytton Road	**Disposal station**	MOZANG	180185010400020030-271	B	3	2	POOR	C
Shama disposal station	**Disposal station**	MOZANG	180185010400020030-276	D	4	4	POOR	C
Jetting Machine	**MACHINERY**	Mozang		D	4	4	POOR	D
Sucker Machine				D	4	4	POOR	D
Excavator Machine				C	3	3	POOR	D
Vacuum extractor				D	4	4	POOR	D
Dump Truck				D	4	4	POOR	D
Water Boozer	**VEHICLES**	Mozang		A	1	1	GOOD	B
Tractor Trolley				D	4	4	FAIR	D

Physical Condition				
New/Excellent Condition	**Minor Defects Only**	**Moderate Deterioration**	**Significant Deterioration**	**Unservicable**
1	**2**	**3**	**4**	**5**

Asset Performance				
Meets Performance Targets	**Minor Performance Deficiencies**	**Considerable Performance Deficiencies**	**Major Performance Deficiencies**	**Doesn't Meet Performanc**
1	**2**	**3**	**4**	**5**

Asset reliability				
As Specified by Manufacturer	Random Breakdown	Occasional Breakdown	Periodic Breakdown	Continuous Breakdown
1	2	3	4	5

Asset Condition Rating				
Excellent	Good	Fair	Poor	Failing
1	2	3	4	5
A	B	C	D	F

Module 3	
Exercise 5	**Please make asset maintenance plan based on their Risk.**

Code	Category	Asset Name	Location	Condition	Probability of Failure Rating	Impact Rating	Risk	Action Plan for Asset Management
180185010400020110-571	Tubewells	Ashrafia Park	**Mozang**	B	**2**	**1**	LOW	Regular Mainatainance
180185010400010110-1		Jinnah Garden	**Mozang**	A	**1**	**1**	LOW	Regular Mainatainance
180185010400020110-581		Kamal Street Poonch Road	**Mozang**	C	**3**	**2**	MODERATE	Priority Mainatainance
180185010400020110-751		Hamoon Shah	**Mozang**	C	**3**	**2**	MODERATE	Priority Mainatainance
180185010400020110-721		Lawrance Road	**Mozang**	A	**1**	**1**	LOW	Regular Mainatainance
180185010400020110-751		Shadman	**Mozang**	A	**1**	**1**	LOW	Regular Mainatainance
180185010400020110-801		Ashrafia Park	**Mozang**	C	**3**	**2**	MODERATE	Priority Mainatainance
180185010400020110-561		Jinnah Bagh	**Mozang**	B	**2**	**1**	LOW	Regular Mainatainance
180185010400020110-741		Fashi Road	**Mozang**	C	**3**	**2**	MODERATE	Priority Mainatainance
180185010400020110-801		Abu Ishaq	**Mozang**	C	**3**	**2**	MODERATE	Regular Mainatainance
180185010400020110-561		Samnabad	**Mozang**	B	**2**	**1**	LOW	Priority Mainatainance
180185010400020110-791		Fazlia Colony	**Mozang**	D	**4**	**3**	HIGH	Immediate Maintenance
180185010400020110-781		Lytton Road	**Mozang**	C	3	**2**	MODERATE	Priority Mainatainance
180185010400020110-761		Aslam Iqbal Park	**Mozang**	B	2	**1**	LOW	Regular Mainatainance

180185010400020110-731		Dara Street Pounch Road	**Mozang**	B	2	**1**	LOW	Regular Mainatainance
180185010400020030-261	DISPOSAL Stations	Ferozpur Road Underpass lift station	**Mozang**	B	2	1	LOW	Regular Mainatainance
180185010400020030-271		Lytton Road		C	3	2	MODERATE	Priority Mainatainance
180185010400020030-276		Shama disposal station		C	3	2	MODERATE	Priority Mainatainance

Condition	**A**	**B**	**C**	**D**	**F**
Probability of Failure Rating	**1**	**2**	**3**	**4**	**5**

Impact	**Minor Component Failure**	**Major Component Failure**	**Asset Failure**	**Facility/ Sub-Division Failure**	**Total System Failure**
Scale Value	**1**	**2**	**3**	**4**	**5**

Probability	**Impact (Criticality Assessment)**				
	1	**2**	**3**	**4**	**5**
A	Low Risk	Low Risk	Low Risk	Moderate Risk	High Risk
B	Low Risk	Low Risk	Moderate Risk	High Risk	High Risk
C	Low Risk	Moderate Risk	High Risk	High Risk	Significant Risk
D	Moderate Risk	High Risk	High Risk	Significant Risk	Significant Risk
F	High Risk	High Risk	Significant Risk	Significant Risk	Significant Risk

Condtion	**Failure Risk State**			
	Low	**Moderate**	**High**	**Significant**

A	Regular Maintenance	Regular Maintenance	Preventive Maintenance	Priority Maintenance
B	Regular Maintenance	Preventive Maintenance	Priority Maintenance	Priority Maintenance
C	Preventive Maintenance	Priority Maintenance	Priority Maintenance	Immidiate Maintenance
D	Priority Maintenance	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance
F	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance	Immidiate Maintenance

Module 2	
Exercise 4	**Please Grade your assets based on their condition using Ratings of USEPA GHD.**

Asset	Capacity	Location(Sub division)	Code	Rating				
				Physical Condition	Asset Performance	Asset Reliability	Asset Condition Rating	Overall Condition
A-Block Tajpura Scheme	2 CFS	Tajpura	180185010700020110-1531	C	**3**	4	Fair	B
Ashfaq Chowk	4 CFS	Tajpura	180185010700020110-1541	C	**2**	3	Fair	B
Burji No. 9	2 CFS	Tajpura	180185010700020110-1551	D	**4**	4	Poor	C
C- Block Al-Faisal Town	4 CFS	Tajpura	180185010700020110-1561	C	**2**	3	Fair	B
Data Park	2 CFS	Tajpura	180185010700020110-1311	B	**2**	3	Good	B
D-Block Tajpura Scheme	4 CFS	Tajpura	180185010700020110-1571	D	**3**	4	Poor	C
E-Block	2 CFS	Tajpura	180185010700020110-1521	B	**1**	2	Excellent	A
Ghaziabad Bus stop	2 CFS	Tajpura	180185010700020110-1601	D	**4**	4	Poor	C
Ghaziabad Graveyard	2 CFS	Tajpura	180185010700020110-1611	C	**3**	4	Fair	B
Iqbal Park	2 CFS	Tajpura	180185010700020110-1621	C	**3**	4	Fair	B

Physical Condition				
New/Excellent Condition	**Minor Defects Only**	**Moderate Deterioration**	**Significant Deterioration**	**Unservicable**
1	**2**	**3**	**4**	**5**

Asset Performance				
Meets Performance Targets	**Minor Performance Deficiencies**	**Considerable Performance Deficiencies**	**Major Performance Deficiencies**	**Doesn't Meet Performance Targets**
1	**2**	**3**	**4**	**5**

Asset reliability				
As Specified by Manufacturer	Random Breakdown	Occasional Breakdown	Periodic Breakdown	Continuous Breakdown
1	2	3	4	5

Asset Condition Rating				
Excellent	Good	Fair	Poor	Failing
1	2	3	4	5
A	B	C	D	F

Module 3

Exercise 5	Please make asset maintenance plan based on their Risk.

Code	Category	Asset Name	Location	Condition	Probability of Failure Rating	Impact Rating	Risk	Action Plan for Asset Management
1801850107000 20110-1531	**Tube well Station**	A-Block Tajpura Scheme	Tajpura	B	**2**	**1**	Low	Regular Mainatainance
1801850107000 20110-1541	**Tube well Station**	Ashfaq Chowk	Tajpura	B	**2**	**1**	Low	Regular Mainatainance
1801850107000 20110-1551	**Tube well Station**	Burji No. 9	Tajpura	C	**3**	**2**	Moderate	Priority Mainatainance
1801850107000 20110-1561	**Tube well Station**	C- Block Al-Faisal Town	Tajpura	B	**2**	**1**	Low	Regular Mainatainance
1801850107000 20110-1311	**Tube well Station**	Data Park	Tajpura	B	**2**	**1**	Low	Regular Mainatainance
1801850107000 20110-1571	**Tube well Station**	D-Block Tajpura Scheme	Tajpura	C	**3**	**2**	Moderate	Priority Mainatainance
1801850107000 20110-1521	**Tube well Station**	E-Block	Tajpura	A	**1**	**1**	Low	Regular Mainatainance
1801850107000 20110-1601	**Tube well Station**	Ghaziabad Bus stop	Tajpura	C	**3**	**2**	Low	Preventive Maintainance
1801850107000 20110-1611	**Tube well Station**	Ghaziabad Graveyard	Tajpura	B	**2**	**1**	Low	Regular Mainatainance
1801850107000 20110-1621	**Tube well Station**	Iqbal Park	Tajpura	B	**2**	**1**	Low	Regular Mainatainance

Condition	A	B	C	D	F
Probability of Failure Rating	1	2	3	4	5

Impact	Minor Component Failure	Major Component Failure	Asset Failure	Facility/ Sub-Division Failure	Total System Failure
Scale Value	1	2	3	4	5

Probability	Impact (Criticality Assessment)				
	1	2	3	4	5
A	Low Risk	Low Risk	Low Risk	Moderate Risk	High Risk
B	Low Risk	Low Risk	Moderate Risk	High Risk	High Risk
C	Low Risk	Moderate Risk	High Risk	High Risk	Significant Risk
D	Moderate Risk	High Risk	High Risk	Significant Risk	Significant Risk
F	High Risk	High Risk	Significant Risk	Significant Risk	Significant Risk

Condtion	Failure Risk State			
	Low	Moderate	High	Significant
A	Regular Maintenance	Regular Maintenance	Preventive Maintenance	Priority Maintenance
B	Regular Maintenance	Preventive Maintenance	Priority Maintenance	Priority Maintenance
C	Preventive Maintenance	Priority Maintenance	Priority Maintenance	Immidiate Maintenance
D	Priority Maintenance	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance
F	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance	Immidiate Maintenance

Basic Information		Location		Asset Risk				Proposed Action/Asset Management Plan
Asset Code	Asset Title	Town	Sub division	Asset Condition	Probability of Failure	Impact Rating	Risk	
180185010700020030-81	B-Block Lift Station	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
180185010700020030-91	Jorrey Pull Disposal	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
180185010700020030-101	Tajpura Disposal Station	ABT	Tajpura	C	3	2	Moderate Risk	Priority Maintainance
180185010700020030-111	Tajbagh Disposal	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
180185010700020110-1631	Jorrey Pull Tubewell	ABT	Tajpura	C	3	2	Moderate Risk	Priority Maintainance
180185010700020110-1621	Iqbal Park Tubewell	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
180185010700020110-1611	Ghaziabad Graveyard tubewell	ABT	Tajpura	C	3	2	Moderate Risk	Priority Maintainance
180185010700020110-1571	D-Block Tajpura Schem	ABT	Tajpura	A	1	1	Low Risk	Regular Maintainance
180185010700020110-1531	A-Block Tajpura	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance

1801850107 00020110-1551	Burji No.9	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
1801850107 00020110-1591	E-Block Tajpura	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
1801850107 00020110-1651	SDO Office Tubewell	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
1801850107 00020110-1541	Ashfaq Chowk Tubwell	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
1801850107 00020110-1601	Ghazaiabad Bus Stop Tubewell	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
1801850107 00020110-1681	Tajbagh	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
1801850107 00020110-1671	Subhan Park Tubewell	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
1801850107 00020110-1561	C-Block Al-faisal Town	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
1801850107 00020110-1521	E Block Tubewell	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance
1801850107 00020110-1641	Pir Naseer Tubewell	ABT	Tajpura	B	2	1	Low Risk	Regular Maintainance

1801850107 00020060-231	Water Tanker	ABT	Tajpura					
1801850107 00020060-351	75 bhp pannel	ABT	Tajpura					
1801850107 00020060-291	06 cgs pump	ABT	Tajpura					
1801850107 00020060-311	100 kva transfarmer	ABT	Tajpura					
1801850107 00020060-301	06 cfs pump	ABT	Tajpura					
1801850107 00020060-341	200 kva tramsfarmer	ABT	Tajpura					
1801850107 00020060-331	100 kva tramsfarmer	ABT	Tajpura					
1801850107 00020060-221	Tractor Trolly	ABT	Tajpura					
1801850101 00020060-381	Tractor Trolley LRT-5524	ABT	Tajpura					
1801850101 00020060-381	Tractor Trolley LRT-5524	ABT	Tajpura					
1801850107 00020060-91	Generator 200 KVA	ABT	Tajpura					

1801850107 00020060-201	Jetting Machine	ABT	Tajpura					
1801850107 00020060-161	Scuker Machine	ABT	Tajpura					
1801850107 00020060-181	Sucker Machine	ABT	Tajpura					
1801850107 00020060-231	Water Tanker	ABT	Tajpura					
1801850107 00020060-221	Tractor Trolly	ABT	Tajpura					
1801850107 00020060-111	Generator 300 KVA	ABT	Tajpura					
1801850107 00020060-131	Generator 500 KVA	ABT	Tajpura					
1801850107 00020060-121	Generator 300 KVA	ABT	Tajpura					
1801850107 00020060-351	75 bhp pannel	ABT	Tajpura					
1801850107 00020060-301	06 cfs pump	ABT	Tajpura					
1801850101 00020060-391	Tractor Trolley LWN-2205	ABT	Tajpura					

180185010210020060-181	100 kvar pfi plant	ABT	Tajpura					
180000000000020120-281	Sucker Machine							
180000000000020120-271	Jetter Machine							
180000000000020120-291	Tractor Trolley							
180000000000020120-151	Hino							
180000000000020120-2021	Suzuki							

Condition	A	B	C	D	F
Probability of Failure Rating	1	2	3	4	5

Impact	Minor Component Failure	Major Component Failure	Asset Failure	Facility/ Sub-Division Failure	Total System Failure
Scale Value	1	2	3	4	5

Probability	Impact (Criticality Assessment)				
	1	2	3	4	5
A	Low Risk	Low Risk	Low Risk	Moderate Risk	High Risk
B	Low Risk	Low Risk	Moderate Risk	High Risk	High Risk
C	Low Risk	Moderate Risk	High Risk	High Risk	Significant Risk

D	Moderate Risk	High Risk	High Risk	Significant Risk	Significant Risk
F	High Risk	High Risk	Significant Risk	Significant Risk	Significant Risk

Condtion	**Failure Risk State**			
	Low	**Moderate**	**High**	**Significant**
A	Regular Maintenance	Regular Maintenance	Preventive Maintenance	Priority Maintenance
B	Regular Maintenance	Preventive Maintenance	Priority Maintenance	Priority Maintenance
C	Preventive Maintenance	Priority Maintenance	Priority Maintenance	Immidiate Maintenance
D	Priority Maintenance	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance
F	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance	Immidiate Maintenance

NAME : SAID ULLAH LAGHARI (SUB ENGINEER).
SUB DIVISION: GARDEN TOWN WASA MULTAN
ASSET : TUBEWELLS

Union Council	Locality	Operational Status	Physical Condition Of Pump	Physical Condition Of Motor	Lubricant Leakages Condition	Water Leakages	Electric Cable insulation	Electric Cable Sizing	Transformer Condition	Condition of Performance of Starter / Motor Control Unit	Pump Vibration Status	Pump Noise Level
38	Gulshan e Shuja	Operational	B	A	B	A	B	B	A	A	A	B
39	Grass Mandi	Operational	A	A	B	A	B	B	A	A	A	B
62	Farooq poora	Operational	B	B	B	B	A	B	A	A	B	B
62	Bilal chowk	Operational	A	A	B	A	B	A	B	A	A	A
	Niaz Town	Operational	B	B	B	B	A	B	A	C	C	B

Motor Temperature Control	Piping Condition	Condition of Return Valve	Condition of Gate Valve	Condition of Air Release Valve	Chlorinator Condition	Civil Structure Condition of Assets	Ventilation Condition	Log Book	Discharge (Cusecs)	Pressure Head (3Ft)	Risk Level
A	B	A	A	B	B	B	B	B	120.00	B	LOW
A	B	A	A	B	B	B	A	B	120.00	B	LOW
B	A	A	A	B	NIL	B	B	A	120.00	A	LOW
A	B	B	B	A	B	A	A	C	120.00	A	LOW
C	C	B	B	C	NIL	B	B	C	120.00	B	MODARATE

Module 2

Exercise 4	Please Grade your assets based on their condition using Ratings of USEPA GHD.

Asset	Category	Location(Sub division)	Code	Rating				
				Physical Condition	Asset Performance	Asset Reliability	Asset Condition Rating	Overall Condition Rating
4-D-II	2	**Green Town**	180185010813820110-21	**D**	**2**	4	Fair	C
5-C-II	2	**Green Town**	180185010813920110-11	**B**	**2**	2	Good	B
Hakim Town	2	**Green Town**	180185010814320110-11	**B**	**2**	2	Good	B
3-D-II	4	**Green Town**	180185010814020110-1	**D**	**2**	4	Fair	C
3-D-I	4	**Green Town**	180185010813820110-11	**D**	**4**	4	Poor	D
Baggrian Village	2	**Green Town**	180185010814320110-31	**D**	**4**	4	Poor	D
5-D-II (New)	2	**Green Town**	180185010814020110-21	**A**	**1**	1	Excellent	A
16-B-I	2	**Green Town**	180185010800020110-141	**B**	**2**	2	Good	B
6-A-II- Township	**4**	**Green Town**	180185010800020110-71	**C**	**4**	3	Poor	D
13-B-I	**4**	**Green Town**	180185010800020110-131	**D**	**3**	4	Poor	D

Physical Condition				
New/Excellent Condition	**Minor Defects Only**	**Moderate Deterioration**	**Significant Deterioration**	**Unservicable**
1	**2**	**3**	**4**	**5**

Asset Performance				
Meets Performance Targets	Minor Performance Deficiencies	Considerable Performance Deficiencies	Major Performance Deficiencies	Doesn't Meet Performance Targets
1	2	3	4	5

Asset reliability				
As Specified by Manufacturer	Random Breakdown	Occasional Breakdown	Periodic Breakdown	Continuous Breakdown
1	2	3	4	5

Asset Condition Rating				
Excellent	Good	Fair	Poor	Failing
1	2	3	4	5
A	B	C	D	F

Module 3

Exercise 5	Please make asset maintenance plan based on their Risk.

Code	Category	Asset Name	Location	Condition	Probability of Failure Rating	Impact Rating	Risk	Action Plan for Asset Management
18018501081382011 0-21	Tube well Station	4-D-II	Green Town	C	**3**	**1**	Low	Preventive
18018501081392011 0-11	Tube well Station	5-C-II	Green Town	B	**2**	**1**	Low	Regular
18018501081432011 0-11	Tube well Station	Hakim Town	Green Town	B	**2**	**1**	Low	Regular
18018501081402011 0-1	Tube well Station	3-D-II	Green Town	C	**3**	**1**	Low	Preventive
18018501081382011 0-11	Tube well Station	3-D-I	Green Town	D	**4**	**1**	Moderate	Priority
18018501081432011 0-31	Tube well Station	Baggrian Village	Green Town	D	**4**	**2**	High	Immediate
18018501081402011 0-21	Tube well Station	5-D-II (New)	Green Town	A	**1**	**1**	Low	Regular
18018501080002011 0-141	Tube well Station	16-B-I	Green Town	B	**2**	**1**	Low	Regular
18018501080002011 0-71	Tube well Station	6-A-II- Township	Green Town	D	**4**	**2**	High	Immediate
18018501080002011 0-131	Tube well Station	13-B-I	Green Town	D	**4**	**2**	High	Immediate

Condition	A	B	C	D	F
Probability of Failure Rating	1	2	3	4	5

Impact	Minor Component Failure	Major Component Failure	Asset Failure	Facility/ Sub-Division Failure	Total System Failure
Scale Value	1	2	3	4	5

Probability	Impact (Criticality Assessment)				
	1	2	3	4	5
A	Low Risk	Low Risk	Low Risk	Moderate Risk	High Risk
B	Low Risk	Low Risk	Moderate Risk	High Risk	High Risk
C	Low Risk	Moderate Risk	High Risk	High Risk	Significant Risk
D	Moderate Risk	High Risk	High Risk	Significant Risk	Significant Risk
F	High Risk	High Risk	Significant Risk	Significant Risk	Significant Risk

Condtion	Failure Risk State			
	Low	Moderate	High	Significant
A	Regular Maintenance	Regular Maintenance	Preventive Maintenance	Priority Maintenance
B	Regular Maintenance	Preventive Maintenance	Priority Maintenance	Priority Maintenance
C	Preventive Maintenance	Priority Maintenance	Priority Maintenance	Immidiate Maintenance
D	Priority Maintenance	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance
F	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance	Immidiate Maintenance

Basic Information		Location			Asset Risk			Proposed Action/Asset Management Plan
Asset Code	Asset Title	Town	Sub division	Asset Condition	Probability of Failure	Impact Rating	Risk	
1801850108138 20110-21	4-D-II	Nashtar Town	Green Town	B	2	2	Modreate	Regular Maintenance
1801850108139 20110-11	5-C-II	Nashtar Town	Green Town	A	1	1	Low	Regular Maintenance
1801850108143 20110-11	Hakim Town	Nashtar Town	Green Town	B	2	2	Modreate	Regular Maintenance
1801850108140 20110-1	3-D-II	Nashtar Town	Green Town	B	2	2	Modreate	Regular Maintenance
1801850108138 20110-11	3-D-I	Nashtar Town	Green Town	B	2	2	Modreate	Regular Maintenance
1801850108143 20110-31	Baggrian Village	Nashtar Town	Green Town	A	1	1	Low	Regular Maintenance
1801850108140 20110-21	5-D-II (New)	Nashtar Town	Green Town	B	2	2	Modreate	Regular Maintenance
1801850108000 20110-141	16-B-I	Nashtar Town	Green Town	A	1	1	Low	Regular Maintenance
1801850108139 20110-21	3-C-I	Nashtar Town	Green Town	B	2	2	Modreate	Regular Maintenance
1801850108138 20110-1	5-D-I Kir Kalan	Nashtar Town	Green Town	B	2	2	Modreate	Regular Maintenance
1801850108140 20110-31	1-D-II	Nashtar Town	Green Town	B	2			Regular Maintenance
1801850108000 20110-51	2-A-Ii Town Ship	Nashtar Town	Green Town	B	2			Regular Maintenance
1801850108143 20110-21	Auqaf Colony	Nashtar Town	Green Town	B	2			Regular Maintenance
1801850108140 20110-11	5-D-II (Old)	Nashtar Town	Green Town	B	2			Regular Maintenance
1801850108143 20110-1	Bhatta No. 1, 2	Nashtar Town	Green Town	A	1			Regular Maintenance
1801850108139 20110-1	4-C-II	Nashtar Town	Green Town	B	2			Regular Maintenance
1801850108138 20110-41	2-D-I	Nashtar Town	Green Town	B	2			Regular Maintenance

180185000000020110-1	2-A-Ii Town Ship	Nashtar Town	Green Town	B	2			Regular Maintenance
180185010800020110-111	2-B-I	Nashtar Town	Green Town	A	1			Regular Maintenance
180185010800020110-161	11-B-I	Nashtar Town	Green Town	A	1			Regular Maintenance
180185010800020110-61	4-A-II	Nashtar Town	Green Town	B	2			Regular Maintenance
180185010800020110-121	2-C-II	Nashtar Town	Green Town	B	2			Regular Maintenance
180185010813920110-61	4-C-II	Nashtar Town	Green Town	B	2			Regular Maintenance
180185010800020110-151	2-B-I	Nashtar Town	Green Town	A	1			Regular Maintenance
180185010800020110-71	6-A-II- Township	Nashtar Town	Green Town	B	2			Regular Maintenance
180185010800020110-131	13-B-I	Nashtar Town	Green Town	B	2			Regular Maintenance
180185010800020030-131	C-II Disposal Station	Nashtar Town	Green Town	C	3	High	3	Regular Maintenance
180185010800020030-81	Ameer Chowk	Nashtar Town	Green Town	B	2	Medium	2	Regular Maintenance
180185010800020030-121	C-I Disposal Station	Nashtar Town	Green Town	C	3	High	3	Regular Maintenance
180000000000020120-1991	Tractor Trolley	Nashtar Town	Green Town					
180000000000020120-291	Tractor Trolley	Nashtar Town	Green Town					
180000000000020120-271	Jetter Machine	Nashtar Town	Green Town					

Condition	**A**	**B**	**C**	**D**	**F**
Probability of Failure Rating	**1**	**2**	**3**	**4**	**5**

Impact	**Minor Component Failure**	**Major Component Failure**	**Asset Failure**	**Facility/ Sub-Division Failure**	**Total System Failure**
Scale Value	**1**	**2**	**3**	**4**	**5**

Probability	Impact (Criticality Assessment)				
	1	2	3	4	5
A	Low Risk	Low Risk	Low Risk	Moderate Risk	High Risk
B	Low Risk	Low Risk	Moderate Risk	High Risk	High Risk
C	Low Risk	Moderate Risk	High Risk	High Risk	Significant Risk
D	Moderate Risk	High Risk	High Risk	Significant Risk	Significant Risk
F	High Risk	High Risk	Significant Risk	Significant Risk	Significant Risk

Condtion	Failure Risk State			
	Low	Moderate	High	Significant
A	Regular Maintenance	Regular Maintenance	Preventive Maintenance	Priority Maintenance
B	Regular Maintenance	Preventive Maintenance	Priority Maintenance	Priority Maintenance
C	Preventive Maintenance	Priority Maintenance	Priority Maintenance	Immidiate Maintenance
D	Priority Maintenance	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance
F	Priority Maintenance	Immidiate Maintenance	Immidiate Maintenance	Immidiate Maintenance

Annex 4.55
Action Plan for Business Planning in Fall 2017

WASA Lahore

Business Plan Format

For FY 2017-18 to FY 2019-20

1. Vision/ Mission (Annex-A)

"To be best service provider in the field of water,sewarge and drainage to the citizens of Lahore.

"Provision,maintenace efficient manner while providing highest value to the customers,maintaning welfare of employees and ensure financial viability of WASA.

2. Basic Information: (Annex- B).

4. SWOT Analysis: (Annex-C).

5. GAP Analysis & Target Setting of Key Performance Indicators (KPIs) (Annex-D)

6. Performance/ Services Improvement Plan (Short Term, Medium Term and Long Term) (Annex-E)

7. Communication Plan (Annex-F)

8. Training Plan (Annex-G)

9. Financial Improvement Plan (Annex-H)

` *WASA Lahore*
Business Plan
For FY 2017-18 to FY 2019-20

Annex A - Vision & Mission Statements (Proposed)

Vision Statement

"Safe drinking water and Sanitation facilities for all, at door step, at all times, in Lahore"

Mission Statement

To provide every citizen with sanitation facilities and with adequate safe water of quality standards for domestic basic needs on a sustainable basis and conveniently accessible at all times and in all situations.

WASA Lahore

Business Plan

For FY 2017-18 to FY 2019-20

Annex B-Key Information (15th Feb 2017).

Sr #	Description	Unit	Value	Remarks
1	Total Population in Area	No.	6,310,000	
2	Population with Water Service	No.	5,679,000	
3	Population with Sewerage Service	No.	5,704,240	
4	Total Water Production	Gallons/day	442,000,000	2012.89liters/day
5	Total Water Sold	Gallons/Year	161,330,000,000	
6	Metered (Functioning) Water Sold	Gallons/Year	8,066,500,000	
7	Free Water	Gallons/Year	9,679,800,000	
8	Total number of Water connections	No.	651,867	
9	Number of Metered Connections	No.	67,535.00	
10	Number of Functioning Metered Connections	No.	31,034	
11	Total number of Sewerage connections	No.	654,063	
12	Length of Water Pipelines	KM	5890Km	
13	Length of Sewerage Pipelines	KM	4,334 Km	
14	Number of Water pipeline breakages	No./Year	0.096breaks/km/year	
15	Number of Sewerage line breakages	No./Year	-	
16	Number of Sewerage line Blockages	No./Year	16.6 blocks/km/year	
17	Number of Water pipeline leakages	No./Year	1.304leaks/km/year	
18	Total Operating Cost (O+R&M+HR+Fin)	Rs./Year	7436.819million	
19	Operating Cost (Electricity + Fuel)	Rs./Year	3080.068million	
20	Human Resource Cost	Rs./Year	2554.923million	
21	Repair & Maintenance Cost	Rs./Year	1035.962million	
22	Annual amount of Bill Distribution	Rs./Year	2624million	
23	Amount of Bill Collection (Ex-Arrears)	Rs./Year	2350million	
24	Amount of Arrears Collected	Rs./Year	680million	
25	Total Number of Water Quality Samples	No./Year	9,125	
26	Biological Unfit Samples	No./Year	730	
27	Residual Cholorine Unfit Samples	No./Year	648	
28	Total Number of Complaints	No./Year	81,664	
29	Number of Water Complaints	No./Year	8,409	
30	Number of Sewerage Complaints	No./Year	73,255	

WASA Lahore WASA LAHORE

Business Plan

For FY 2017-18 to FY 2019-20

Advanced SWOT Analysis

Internal Factors	**Strengths (S)**		**Weaknesses (W)**	
	S1:	**Large No. of Tubewells/larger area**	**W1**	**Union Influence**
	S2:	**GIS Mapping**	**W2**	**Manual System**
	S3:	**Foreign Funding**	**W3**	**No Buisness plan**
	S4:	**Well Technical Staff**	**W4**	**Human Resource Department**
	S5:	**Billing**	**W5**	**More Customer Complaints**
	S6:	**In-time Repair and Maintenance**	**W6**	**Low Revenue/Tarrif**
	S7:	**Proper Complaint Cell**	**W7**	**Corruption and Power Wastage**
			W8	**Awarness in people**
External Factors	**Opportunities (O)**		**Threats (T)**	
	O1:	**Training of Technical Staff**	**T1:**	**No Waste & Surface Water Plant**
	O2:	**Sale out the Broken Machinary**	**T2:**	**Political Influences**
	O3:	**Install Filteration Plants**	**T3:**	**High Depletion Curve**
	O4:	**Water Municipal Act 2014**	**T4:**	**Arsenic In Water**
	O5:	**Punjab Drinking Water Policy**	**T5:**	**No Ground Water Recharging**
	O6:	**Master Planning**	**T6:**	**High Subsity by Government**
	O7:	**Metering**	**T7:**	**Mis-use of Power**
	O8:	**Relatively high tarriff**	**T8:**	**Population Growth**

Team of Group

Name	Abdul Moeed / Muhammad Rashid
Designation	Assistant Director WASA Lahore
Name of Organization	WASA Lahore

WASA Lahore

Business Plan

For FY 2017-18 to FY 2019-20

Annex D: GAP Analysis & Target Setting of Key Performance Indicators (KPIs)

Conditional Assessment

WASA	Gaps	Base Line		Target Year 1	
		Poor D	Fair C	Poor D	Fair C
WASA LAHORE	Pumping Efficiency	52%	9%	45%	7%
	Tube Well Condition	19%	60%	15%	50%
	Disposal Condition	64%	21%	50%	15%
	OHR Condition	54 (Not In Use)		14 (Working)	

Costing and Budgeting

WASA	Gaps	Base Line	Target Year 1
WASA LAHORE	Pumping Efficiency (Low + Fair Pumps)	353	300
	Power Factor Penality	21.3	16
	Peak Units Consumptions	32343009	25000000
	MDI Unit Consumptions/Non Revenue	40%	30%

Costing and Budgeting

WASA	Taks	Cost Year 1 (Millions)	Cost Year 2 (Millions)
WASA LAHORE	Pumping Efficiency (Low + Fair Pumps)	87.50	161.00
	Power Factor Penality	3.51	4.68
	Peak Units Consumptions	377.00	377.00

Service Improvement

Target Year 2		Target Year 3	
Poor D	**Fair C**	**Poor D**	**Fair C**
35%	4%	20%	3%
10%	35%	3%	15%
30%	9%	10%	3%
34 (Working)		54 (Working)	

Target Year 2	Target Year 3
200	50
10	3
15000000	5000000
20%	10%

Cost Year 3 (Millions)	Total Cost (Millions)
237.00	485.50
2.93	11.12
377.00	1131.00

Assumed Rates	
Pump Replacement:	2500000
Motor Replacement:	2000000
Impeller Adjustment	700000
Impeller Repair & Adjustment	300000
Power Factor Capcitor:	22000
OHR:	13000000

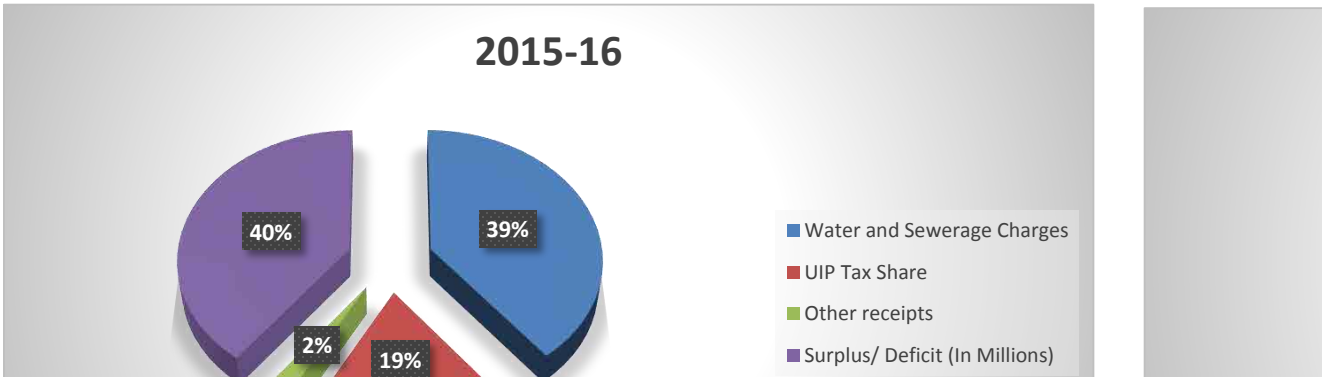
Service	Towns	Base Line			
		C (Length) (m)	D (Length) (m)	F (Length) (m)	Y 1 (Length) (m) (20%)
Water	Aziz Bhatti Town	52058.68	90828.18	190.23	10411.74
	Gulberg Town	189974.95	38620.35	3112.84	37994.99
	Gunj Bakhsh Town	325035.32	180216.09	22.43	65007.06
	Iqbal Town	494231.64	278040.00	2846.07	98846.33
	Nishter Town	169285.32	104291.01	2414.82	33857.06
	Ravi Town	300677.65	200665.01	2636.57	60135.53
	Shalimar Town	150240.72	133931.07	15491.61	30048.14
Seweage	Aziz Bhatti Town	52120.14	75517.25	0.00	10424.03
	Gulberg Town	126380.50	82178.56	12376.50	25276.10
	Gunj Bakhsh Town	380286.75	86144.59	0.00	76057.35
	Iqbal Town	318618.45	308535.18	7785.16	63723.69
	Nishter Town	286502.28	91198.82	2221.18	57300.46
	Ravi Town	321175.27	142983.78	4397.39	64235.05
	Shalimar Town	230878.45	154015.16	10676.58	46175.69

Collection Efficiency (GAP Analysis & Target Setting) & Operational D

Operational Deficit

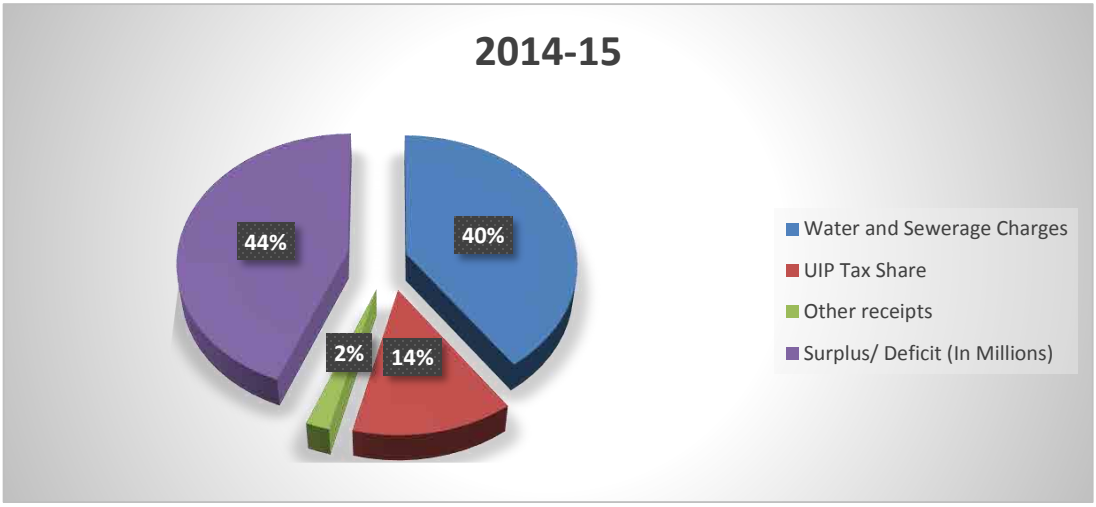
	2014-15	2015-16	2016-17
	Rs. in (million)		
Total Operational Receipts	4,089	4,483	5,279
Total Operational Expenditure	7,305	7,437	9,033
Surplus/ Deficit (In Millions)	**(3,216)**	**(2,954)**	**(3,754)**
Working Ratio	**1.79**	**1.66**	**1.71**

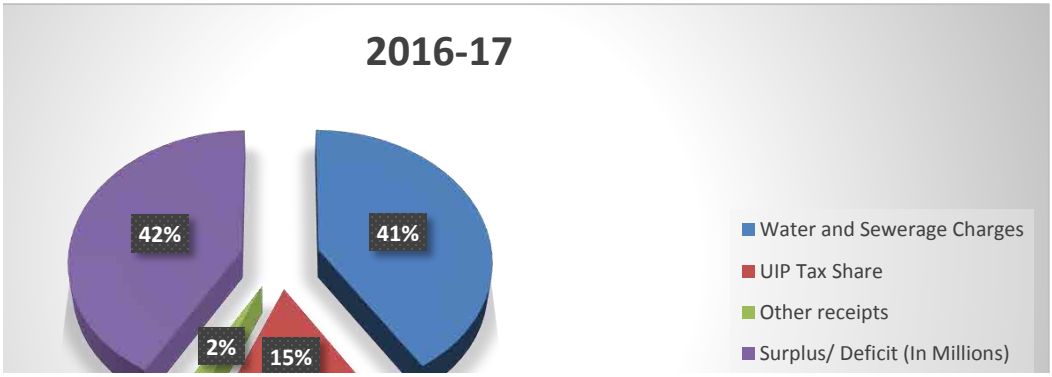
	2014-15	2015-16	2016-17
	Rs. in (million)		
Water and Sewerage Charges	2,925	2,928	3,689
UIP Tax Share	1,014	1,381	1,400
Other receipts	150	175	191
Surplus/ Deficit (In Millions)	**3,216**	**2,954**	**3,754**



Targets C		Targets D			Targets F		
Y 2 (Length) (m) (50%)	Y 3 (Length) (m) (80%)	Y 1 (Length) (m) (20%)	Y 2 (Length) (m) (50%)	Y 3 (Length) (m) (80%)	Y 1 (Length) (m) (20%)	Y 2 (Length) (m) (50%)	Y 3 (Length) (m) (80%)
26029.34	41646.94	18165.64	45414.09	72662.55	38.05	95.11	152.18
94987.48	151979.96	7724.07	19310.18	30896.28	622.57	1556.42	2490.27
162517.66	260028.26	36043.22	90108.04	144172.87	4.49	11.22	17.94
247115.82	395385.31	55608.00	139020.00	222432.00	569.21	1423.03	2276.86
84642.66	135428.26	20858.20	52145.50	83432.81	482.96	1207.41	1931.86
150338.82	240542.12	40133.00	100332.50	160532.01	527.31	1318.29	2109.26
75120.36	120192.57	26786.21	66965.54	107144.86	3098.32	7745.80	12393.29
26060.07	41696.11	15103.45	37758.62	60413.80	0.00	0.00	0.00
63190.25	101104.40	16435.71	41089.28	65742.85	2475.30	6188.25	9901.20
190143.37	304229.40	17228.92	43072.30	68915.67	0.00	0.00	0.00
159309.22	254894.76	61707.04	154267.59	246828.14	1557.03	3892.58	6228.13
143251.14	229201.83	18239.76	45599.41	72959.06	444.24	1110.59	1776.95
160587.64	256940.22	28596.76	71491.89	114387.02	879.48	2198.70	3517.91
115439.23	184702.76	30803.03	77007.58	123212.12	2135.32	5338.29	8541.26

eficit





Reason for GAP:		Priority			
Sr. No.	Reason for Operation Deficit	Critical	High	Medium	Low
1	Low Tarriff	•			
2	High NRW / No Metering	•			
3	Breakage / Leakage		•		
4	Illegal Connections			•	
5	Energy (Electrical) Losses		•		
6	Low rate of recovery	•			
7	Political & Union Interference		•		
8	Corruption			•	
9	Out-dated Macinary			•	
10	Over-staffing and high payrolls			•	
11	Lack of Legal Backing		•		

Collection Efficiency

(a). Physical Efficiency:

Data:

Chart:

Total No. of Bills Issued	4,065,827
Total No. of Bills Collected	2,593,411
(Shortfall)	1,472,416
Collection Efficiency (%)	64%

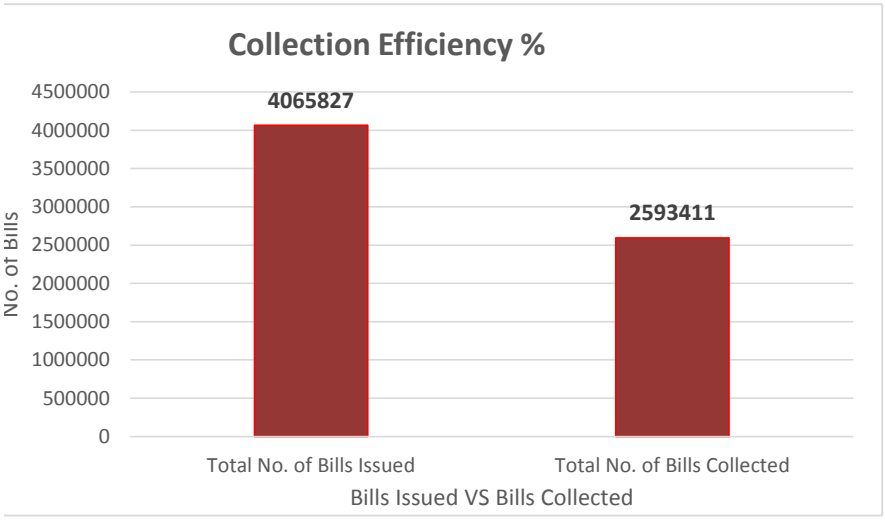
(b). Financial Efficiency:

	Water			
	Domestic	Commerical	Industrial	Domestic
Amount of Bills Issued (Rs. in million)	37,787,994	11,369,000	82,020,028	44,546,300
Amount of Bills Collected (Rs. in million)	29,207,088	5,454,354	63,259,950	16,004,940
Shotfall / Deficit (Rs. In Million)	8,580,906	5,914,646	18,760,078	28,541,360
Collection Efficiency	77%	48%	77%	36%

Collection Efficiency Charts

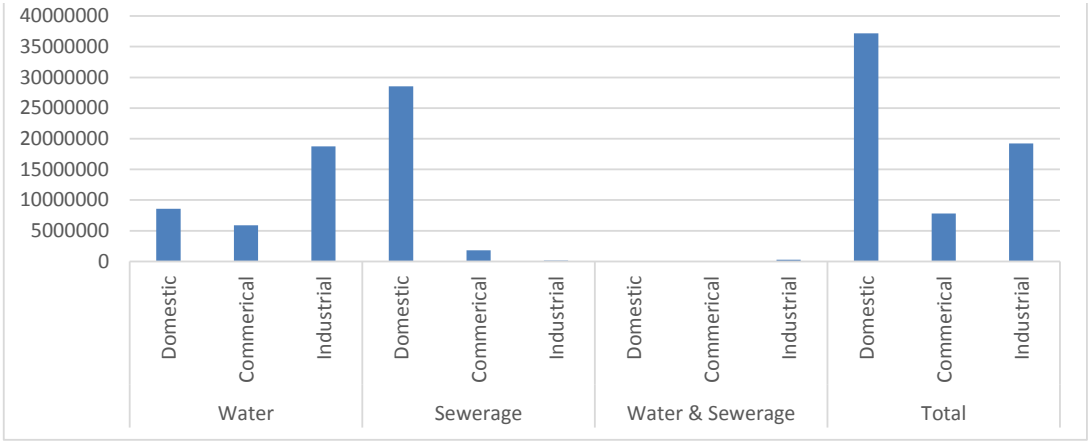
Shotfall / Deficit (Rs. In Million)

Target Setting:			Target		
Indicator	Unit	Current Status	2017-18	2018-19	2019-20
Operational Deficit	% of Operational Expenditures	42%	35%	25%	10%
Working Ratio	Ratio	1.71	1.2	0.9	0.6

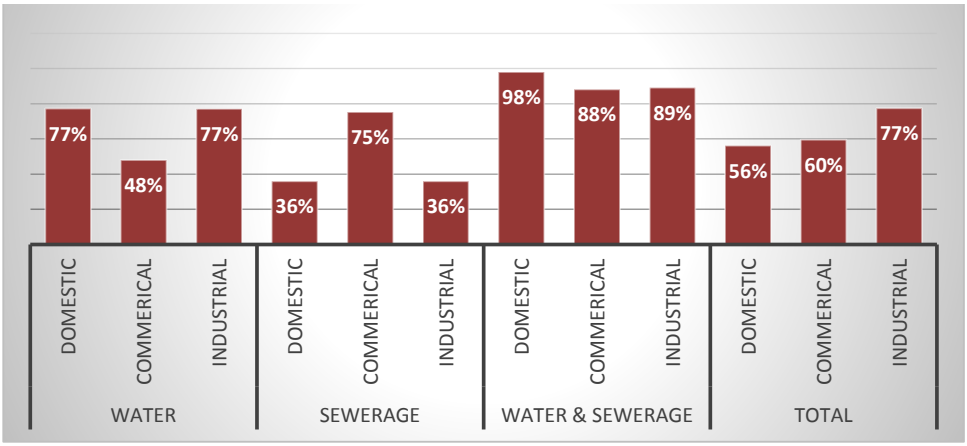


Sewerage		Water & Sewerage			Total		
Commerical	Industrial	Domestic	Commerical	Industrial	Domestic	Commerical	Industrial
7,433,577	251,187	2,519,172	478,243	2,759,981	84,853,466	19,280,820	85,031,196
5,597,340	90,360	2,468,733	421,633	2,460,600	47,680,761	11,473,327	65,810,910
1,836,237	160,827	50,440	56,610	299,381	37,172,706	7,807,493	19,220,286
75%	36%	98%	88%	89%	56%	60%	77%

Collection Efficiency



Reasons:		Priority			
Sr. No.	**Reason for Discrepancy**	**Critical**	**High**	**Medium**	**Low**
1	Improper Distribution of bills		•		
2	No Heavy fine		•		
3	No Awarness in people		•		
4	Political Interference			•	
5	No Implementation of legal rules	•			
6	Corruption			•	



Target Setting:				Target		
Indicator		**Unit**	**Current Status**	**2017-18**	**2018-19**	**2019-20**
Collection Efficiency (Physical)	Overall	**%**	64%	70%	80%	95%
Collection Efficiency (Financial)	Domestic	**%**	56%	65%	80%	98%
	Commercial	**%**	60%	68%	80%	95%
	Industrial	**%**	77%	85%	95%	100%

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex E-Performance Improvement Plan.

		Short Tem (2017-18) 1 Year		
Sr. #	**Areas of Improvement**	**Action Plan**	**Location**	**Budget**
1	Sustainable Ground Water Strata / Auquifer	Surface Water Treatment Plants (100 Cusecs)	U/S of Ravi Syphon at BRBD Canal	10000 M
		Waste Water Treatment Plants	Mehmood Booti, Shadbagh, Babu Sabu & Shahdara	15000 M
		Formation of Pits & Shafts	River Ravi	50 M
		Rain Water Harvesting	Lahore	100 M
		Construction of Dykes	River Ravi	300 M
2	Non-Revenue Water	Installation of Water Meters	Lahore	570 M
		Replacement of Poor Conditioned (leaking) Water Supply Pipes		2000 M
3	Energy (Electricity) Conservation	OHR Rehablitation & Construction	Lahore	500 M
		Adjusting & Repairing Impeller		100 M
		Replacing Motors & Pumps		100 M
		Replacing Capacitors		8.12 M

		Medium Term (2018-21) 3 Years		
Responsible staff/ Supervision	**Timeline**	**Action Plan**	**Location**	**Budget**
DMD (Engg) & Consultants	1 Year	Surface Water Treatment Plants (100 Cusecs)	U/S of Ravi Syphon at BRBD Canal	15000 M
		Surface Water Treatment Plants (250 Cusecs)		
Director (Construction) & D (Hydrology)		Waste Water Treatment Plants	Mehmood Booti, Shadbagh, Shahdara, Babu Sabu	25000 M
		Rain Water Harvesting	Lahore	100 M
		Construction of Dykes	River Ravi	200 M
Director (Admin)	1 Year	Installation of Water Meters	Lahore	1710 M
Director (Construction)		Replacement of Poor Conditioned (leaking) Water Supply Pipes		3000 M
Director (Construction)	1 Year	OHR Rehablitation & Construction	Lahore	631 M
Director (O & M)		Adjusting & Repairing Impeller		100 M
		Replacing Motors & Pumps		185 M
		Replacing Capacitors		3 M

Responsible staff/ Supervision	Timeline
DMD (Engg) & Consultants	2 Year
	3 Years
Director (Construction) & D (Hydrology)	3 Years
Director (Admin)	3 Years
Director (Construction)	2.5 Years
Director (Construction)	3 Years
Director (O & M)	2 Years
	3 Years
	1 Year

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex F - Communication and Customer Service Improvement Plan

Sr. No.	Issues	Strategy
1	Communication Gap (External)	Complaint Cell, Opinion Leaders, Information Cell, Reception
2	Communication Gap (Internal)	Get-Togethers, Meetings, Annual Dinners, Information Cell, WEWA
3	Lack of Public Awarness	Door to Door Compaign, Workshops, Saminars, School & Universities Saminars, Events, Advertisment, Public Awarness messages, via Facebook & Twitter, TV, Radio
4	Customer Complaints & Feedback	Helpline, E-Complaints, Automated Calls or SMS for Feedback
5	Receipt of Bills	Internet Banking, UBL Omni, via ATM, Easy Paisa, Mobile Banking Apps

Responsibility	Start Date	End Date	KPIs
Director (Admin) & Social Mobilizers	1-Aug-18	31-Dec-18	Customer Satisfaction, No of Complaints, Collection Efficiency
Director (Admin)	1-Feb-18	_	Staff Satisfaction
Director (Admin) & Social Mobilizers	1-Aug-18	31-Dec-18	Collection Efficiency / No of Customers
Director (Admin)	1-Dec-17	_	Collection Efficiency / Customer Satisfaction
Director (Admin)	1-Dec-17	_	Collection Efficiency / Customer Satisfaction

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex G - Training Plan

Date and Time	Course Title	Level	Aims	Objectives	Training Methods
15 July 2017 to 22 July 2017	PC-1 - PC-5	Medium	Better Project Deliverables	Identification of outcomes of Project	Lectures / Manuals
1 August 2017 to 5 August 2017	Public Procurment Policies / PPRA Rules	Advance	Tender Improvement	Accountibility and Transprancy	Lectures / Manuals
12 August 2017 to 22 August 2017	Key Performance Indicators (KPIs)	Advance	Setting Targets	Monitoring and Evaluation	Lectures / Manuals
2-September 2017 to 15-October 2017	Wastewater & Surface water Treatment Plants	Medium	Quality Water	Sustainable Underground Water Strata	Lectures / Manuals & Site Visits
25-October 2017 to 5-December 2018	Asset Management	Medium	Maintaining list of Inventory	Use of Resources	Lectures / Manuals
12-December 2017 to 17-December 2017	O&M of Electical and Mechanical Equipments	Medium	Reduction in MDI and Power factor	Cost Cotrol	Lectures / Manuals & Site Visits
1-January 2018 to 8-January 2018	Microsoft Project / Primavera	Basic	Project Planning	Timely Completion of Project	Lectures / Manuals & Software Workshop
15-January 2018 to 22-January 2018	Introduction to PEEDA Act 2006	Basic	Responsibilty to Organization	Responsibilites and Liabilities	Lectures / Manuals
28-January 2018 to 8-February 2018	Contract Management	Medium	Better Tendering Documents	Viable Deliverables	Lectures / Manuals
15-February 2018 to 15-March 2018	Methods for Monitoring and Evaluation	Medium	Setting Indicators	Monitoring and Evaluation	Lectures / Manuals
22-March 2018 to 7-April 2018	Human Resource Management	Medium	Proper Datbase	Technical and Skilled Staff	Lectures / Manuals
15-April 2018 to 25-April 2018	Communication and Presentation Skills	Advance	Better Discription of Project	Clear Picture of Deliverables	Lectures & Presentations
8-May 2018 to 25-May 2018	Creative Thinking and Decision making	Medium	Better Progress Rate	Best use of Assets and Staff	Lectures / Manuals
2-June 2018 to 12-June 2018	Time and Stress Management	Medium	Service Improvement	Increase Efficeiency	Lectures / Manuals

Location	Materials	Assessment
PPMI Islamabad	Powerpoint Slides & Case Study	Assignemnts
PPMI Islamabad	Powerpoint Slides	Tender Document Review
PPMI Islamabad	Powerpoint Slides & Case Study	Assignemnts
Japan	Powerpoint Slides	Assignemnts
AL-Jazari Acadmy, Lahore.	Powerpoint Slides & Case Study	Assignemnts & Case Review
AL-Jazari Acadmy, Lahore.	Powerpoint Slides & Case Study	Assignemnts & Case Review
UET Lahore	Powerpoint Slides & Case Study	Assignemnts
AL-Jazari Acadmy, Lahore.	Powerpoint Slides	Presentation
PPMI Islamabad	Powerpoint Slides	Presentation
PPMI Islamabad	Powerpoint Slides & Case Study	Assignemnts & Case Review
AL-Jazari Acadmy, Lahore.	Powerpoint Slides	Presentation
AL-Jazari Acadmy, Lahore.	Powerpoint Slides	Presentation
AL-Jazari Acadmy, Lahore.	Powerpoint Slides	Presentation
AL-Jazari Acadmy, Lahore.	Powerpoint Slides	Presentation

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex H - Financial Improvement Plan

Action Plan for Improvement of Outdated Consumer Database

Sr. No.	Issues	Strategy
1	No Proper Consumer Survey	Dedicated Survey (GIS Mapping) By 3rd Party
2	Automation of Data	Separate Cell can be made
3	Multiple Billing Category	Sucrutiny of Database
4	Insufficient Information (address) of existing Consumers	3rd Party Survey & DD (EDP)

Action Plan for Improvement in Bill Distribution and Receipt

Sr. No.	Issues	Strategy
1	Incorrect Database (Address)	Automation of Data
2	No Electronic Mechanism of Distribution & Receipt	Billing Via SMS, Emails and their Receipt via Easy Paisa, UBL Omni, ATM & Internet banking etc
3	Awarness In Public	Events / Advertisment / Door to Door Visits (Compaigns)
4	Motivation Of Staff	Performance Based Bonus / Commission (%)

Responsibility	Start Date	End Date	KPIs
D (Revenue)	1-Dec-17	31-May-18	GIS Mapping
DD(EDP)	1-Jan-18	31-Mar-18	Electronic Datbase
3rd Party Survey & DD (EDP)	1-Jan-18	31-Mar-18	Database / Collection Efficiency
3rd Party Survey & DD (EDP)	2-Feb-18	31-May-18	Collection Efficiency

Responsibility	Start Date	End Date	KPIs
DD(EDP)	1-Jan-18	31-Mar-18	Datbase / Efficiency
DMD (F,A & R) & D (Admin)	1-Aug-18	31-Dec-18	Improved Collection Efficiency
PRO, D(Admin) & D (Revenue)	1-Aug-18	31-Dec-18	Increase Revenue
DMD (F,A & R) & D (Admin)	1-Jan-19	31-Mar-19	Targets Achieved

Action Plan for Improvement in Arrears Recovery and Collection Efficiency

Sr. No.	Issues	Strategy
1	Illegal Connections	Voluntary Disclosure & One Time Settlement
2	+	Strong Policies and Legal Backing
3	Customer Unable to Pay	Installment payments / Waving off fine
4	Customer Not Willing to Pay	Legal Backing & By Imposing Heavy Fines

Action Plan for Additional Sources of Revenue

Sr. No.	Issues	Strategy
1	Advertisment on OHR & Bills	By Contracting any Advertising Company
2	Leased To Telco Companies	By Advertisment / Contracts with Telco Companies
3	Rental Of Land	By Advertisment
4	Water testing lab	By Advertisment & Awarness in Public / Improving Lab Standards
5	Bottling Services	Establishing Filteration Plants / Sale Points

Responsibility	Start Date	End Date	KPIs
D (Revenue)	1-Aug-18	31-Dec-18	No. of Customers
MD & D (Admin)	1-Jan-19	31-Mar-19	Increase in Receipts / Revenue
D (Revenue)	1-Aug-18	31-Dec-18	Improved Collection Efficiency
D (Revenue) & D (Admin)	1-Aug-18	31-Dec-18	No. of Customers & Revenue

Responsibility	Start Date	End Date	KPIs
D (Admin)	1-Jan-18	28-Feb-18	Increase Revenue
D (Admin)	1-Jan-18	28-Feb-18	
D (Admin)	1-Jan-18	6/31/2018	
D (Hydrology)	1-Aug-18	31-Dec-18	
D(Admin) & D(Revenue) & D(Hydrology)	1-Aug-18	31-Dec-18	

WASA Faisalabad Water Bottling Project	
Unit: Rs.	Assumptions/Inputs
Initial Investment	8600000
Productio per day	1500
Working Days per month	22
Unit Price	63
Workers Salary	Rs. 40000 x 10 workers x 2 shifts
Electricity	Rs 3 per Bottle
Membrane Cartridge	44640 for 6 month
Transportation	8.9 per bottle
Empty Bottle per Cost	6.12 per bottle
PVC bottle cap	4.8 per unit
Administration staff salary	50000 x 5 staff

	Aug-15	Aug-16
Initial Investment	8600000	
Workers Salary		9600000
Electricity		1188000
Membrane Cartridge		89280
Transportation		3524400
Empty Bottles		2423520
PVC Cap		1900800
Asmin Staff Salary		3000000
Total Expenditures:	8600000	21726000
Total Price Of Bottles/Year		24948000

Cash Flows	-8600000	3222000

(B)

Initial Investment:	**Rs: 8600000**
Revenue: (Rs)	**124740000**
Expenditure: (Rs)	**108630000**

C.

	Total Expenditures
Initial Investment	8600000
No. of Bottles per year	396000

Rate: 12%

Aug-17	Aug-18	Aug-19	Aug-20
9600000	9600000	9600000	9600000
1188000	1188000	1188000	1188000
89280	89280	89280	89280
3524400	3524400	3524400	3524400
2423520	2423520	2423520	2423520
1900800	1900800	1900800	1900800
3000000	3000000	3000000	3000000
21726000	21726000	21726000	21726000
24948000	24948000	24948000	24948000
3222000	3222000	3222000	3222000

NPV:	**3014589**
IRR:	**25.37%**
BCR:	**1.35**

WASA Faisalabad Water Bottling Project	
Unit: Rs.	Assumptions/Inputs
Initial Investment	8600000
Productio per day	1500
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PVC bottle cap	4.8 per unit
Administration staff salary	50000 x 5 staff

	Total Expenditures
Initial Investment	8600000
No. of Bottles per year	396000
Rate:	12%

	Aug-15	Aug-16	Aug-17	Aug-18
Initial Investment	8600000			
Workers Salary		9600000	9600000	9600000
Electricity		1188000	1188000	1188000
Membrane Cartridge		89280	89280	89280
Transportation		3524400	3524400	3524400
Empty Bottles		2423520	2423520	2423520
PVC Cap		1900800	1900800	1900800
Asmin Staff Salary		3000000	3000000	3000000
Total Expenditures:	8600000	21726000	21726000	21726000
Total Price Of Bottles/Year		24948000	24948000	24948000
Cash Flows	-8600000	3222000	3222000	3222000

(A)

(1).Unit Price for each bottle should be in multiple decrease a little bit.
(2). PVC Bottle Cap Unit Rate can be reduced by taking these Caps in bulk. Its value can be reduced upto 25%.
(3).Assumption should include some risk of variations in market rates.
(4). Morover, empty bottle rate is also high.

(B)

Initial Investment:	**Rs: 8600000**
Revenue: (Rs)	**124740000**
Expenditure: (Rs)	**108630000**

C.

NPV:	**3014589**
IRR:	**25.37%**
BCR:	**1.35**

Aug-19	Aug-20
9600000	9600000
1188000	1188000
89280	89280
3524400	3524400
2423520	2423520
1900800	1900800
3000000	3000000
21726000	21726000
24948000	24948000
3222000	3222000

IN THE NAME OF ALLAH THE MOST BENEFICIENT AND MOST MERCIFULNESS

PRESENTATION

- HAFIZ MUHAMMAD SHAHID JAMEEL
- HAFIZ RASHID RAFIQUE

Vision

"To be providing best service in the field of water,sewarge and drainage to the people of Lahore.

- Mission

- "Provision,maintenace effective way, while surving to the customers, maintaining welfare of employees and ensure financial viability of WASA

SWOT ANALYSIS

- TWO FACTORS

1. INTERNAL FACTORS
2. EXTERNAL FACTORS

INTERNAL FACTORS

- TWO INTERNAL FACTORS
- STRENGTH
- WEAKNESS

EXTERNAL FACTORS

- TWO EXTERNAL FACTORS
- OPPORTUNITIES
- THREATS

STRENGTHS

- WATER TESTING LAB,
- AVAILABILITY OF FUNDS,
- FILTERATION PLANTS
- EFFICIENT MACHINERY
- TECHNICAL STAFF
- LARGE NUMBER OF CONNECTIONS
- MONOPOLY
- WASA TUBE WELLS

WEAKNESSES

- LACK OF CUSTOMER FEED BACK
- LACK OF PROPER TRAINING
- HEAVY DEFAULTERS
- POOR CONDITION PIPE LINES
- POLITICAL INFLUENCES,
- LACK OF MOTIVATED STAFF EMPLOYESS
- POOR RECOVERY,

OPPORTUNITIES

- CAPATURE NEW AREAS
- NEW WAYS OF WATER SUPPLY
- USING NEW TECHNOLOGY
- OUTSOURCING NEW PROFESSIONALS
- AWARENESS OF PUBLIC
- CONSUMER BASED SURVEY BY WORLD BANK

THREATS

- HEALTH PROBLEMS WHERE OUTDATED INFRASTRUCTURE
- LOW WATER LEVEL
- LOW PRODUCTION
- POPULATION GROWTH
- PRIVATE AGENCIES
- POLITICAL PRESSURE
- CONSUMER INSTALLATING HIS OWN INJECTOR PUMP

THANKS

- JASHN-E-EID MELADUN NABI MUBARAK HO

WASA Lahore

Business Plan Format

For FY 2017-18 to FY 2019-20

1. Vision/ Mission (Annex-A)

"To be providing best service in the field of water,sewarge and drainage to the people of Lahore.

"Provision,maintenace effective way, while surving to the customers,maintaning welfare of employees and ensure financial viability of WASA.

2. Basic Information: (Annex- B).

4. SWOT Analysis: (Annex-C).

5. GAP Analysis & Target Setting of Key Performance Indicators (KPIs) (Annex-D)

6. Performance/ Services Improvement Plan (Short Term, Medium Term and Long Term) (Annex-E)

7. Communication Plan (Annex-F)

8. Training Plan (Annex-G)

9. Financial Improvement Plan (Annex-H)

WASA Lahore

Business Plan

For FY 2017-18 to FY 2019-20

"To be providing best service in the field of water,sewarge and drainage to the people of Lahore.

Annex A - Vision & Mission Statements

Vision Statement

"To be providing best service in the field of water,sewarge and drainage to the people of Lahore.

Mission Statement

"Provision,maintenace effective way, while surving to the customers,maintaning welfare of employees and ensure financial viability of WASA.2

WASA Lahore

Business Plan

For FY 2017-18 to FY 2019-20

Annex B-Key Information (15th Feb 2017).

Sr #	Description	Unit	Value	Remarks
1	Total Population in Area	No.	6,310,000	
2	Population with Water Service	No.	5,679,000	
3	Population with Sewerage Service	No.	5,704,240	
4	Total Water Production	Gallons/day	442,000,000	2012.89liters/day
5	Total Water Sold	Gallons/Year	161,330,000,000	
6	Metered (Functioning) Water Sold	Gallons/Year	8,066,500,000	
7	Free Water	Gallons/Year	9,679,800,000	
8	Total number of Water connections	No.	651,867	
9	Number of Metered Connections	No.	67,535.00	
10	Number of Functioning Metered Connections	No.	31,034	
11	Total number of Sewerage connections	No.	654,063	
12	Length of Water Pipelines	KM	5890Km	
13	Length of Sewerage Pipelines	KM	4,334 Km	
14	Number of Water pipeline breakages	No./Year	0.096breaks/km/year	
15	Number of Sewerage line breakages	No./Year	-	
16	Number of Sewerage line Blockages	No./Year	16.6 blocks/km/year	
17	Number of Water pipeline leakages	No./Year	1.304leaks/km/year	
18	Total Operating Cost (O+R&M+HR+Fin)	Rs./Year	7436.819million	
19	Operating Cost (Electricity + Fuel)	Rs./Year	3080.068million	
20	Human Resource Cost	Rs./Year	2554.923million	
21	Repair & Maintenance Cost	Rs./Year	1035.962million	
22	Annual amount of Bill Distribution	Rs./Year	2624million	
23	Amount of Bill Collection (Ex-Arrears)	Rs./Year	2350million	
24	Amount of Arrears Collected	Rs./Year	680millio	
25	Total Number of Water Quality Samples	No./Year	9,125	
26	Biological Unfit Samples	No./Year	730	
27	Residual Cholorine Unfit Samples	No./Year	648	
28	Total Number of Complaints	No./Year	81,664	
29	Number of Water Complaints	No./Year	8,409	
30	Number of Sewerage Complaints	No./Year	73,255	

WASA Lahore

Business Plan

For FY 2017-18 to FY 2019-20

Annex C - SWOT Analysis

Internal Factors	
Strengths (S)	**Weaknesses (W)**
WATER TESTING LAB, AVAILABILITY OF FUNDS, FILTERATION PLANTS EFFICIENT MACHINERY TECHNICAL STAFF LARGE NUMBER OF CONNECTIONS MONOPOLY WASA TUBE WELLS	LACK OF CUSTOMER FEED BACK LACK OF PROPER TRAINING HEAVY DEFAULTERS POOR CONDITION PIPE LINES POLITICAL INFLUENCES, LACK OF MOTIVATED STAFF EMPLOYESS POOR RECOVERY,
EXTERNAL FACTORS	
Opportunities (O)	**Threats (T)**
CAPATURE NEW AREAS NEW WAYS OF WATER SUPPLY USING NEW TECHNOLOGY OUTSOURCING NEW PROFESSIONALS AWARENESS OF PUBLIC CONSUMER BASED SURVEY BY WORLD BANK	HEALTH PROBLEMS WHERE OUTDATED INFRASTRUCTURE LOW WATER LEVEL LOW PRODUCTION POPULATION GROWTH PRIVATE AGENCIES POLITICAL PRESSURE CONSUMER INSTALLATING HIS OWN INJECTOR PUMP

WASA Lahore

Business Plan

For FY 2017-18 to FY 2019-20

Annex D: GAP Analysis & Target Setting of Key Performance Indicators (KPIs)

Conditional Assessment

WASA	Gaps	Base Line		Target Year 1		Target Year 2		Target Year 3	
		Poor D	Fair C	Poor D	Fair C	Poor D	Fair C	Poor D	Fair C
Lahore	WATER PLANTS EFFICIENCY (NOs)	75	50	25	15	25	15	25	20
	PIPE LINES(Meters)	1000	700	400	300	400	300	200	100
	TUBE WELLS(NOs)	10	8	4	3	4	3	2	2

Costing and Budgeting

WASA	Gaps	Base Line	Target Year 1	Target Year 2	Target Year 3
Lahore	WATER PLANTS EFFICIENCY(PKR M)	2	0.75	0.75	0.5
	PIPE LINES(PKR M)	2.5	1	1	0.5
	TUBE WELLS(PKR M)	5	2	2	1

Operational Receipts

	2014-15	2015-16	2016-17
	Rs. in (million)		
Water and Sewerage Charges	2,925	2,928	3,689
UIP Tax Share	1,014	1,381	1,400
Other receipts	150	175	191
Total Operational Receipts	**4,089**	**4,483**	**5,279**

Operational Expenditure

	2014-15	2015-16	2016-17
	Rs. in (million)		
Power & Energy	2,862	3,080	3,041

Payroll, Pension & Benefits	2,319	2,555	3,113
Repair and Maintenance/O&M	1,046	1,036	1,188
Utilization of PCGIP funds	471	366	725
Petroleum (POL)	410	248	450
Other expenses	198	151	517
Total Operational Expenditure	**7,304.94**	**7,436.82**	**9,033.40**

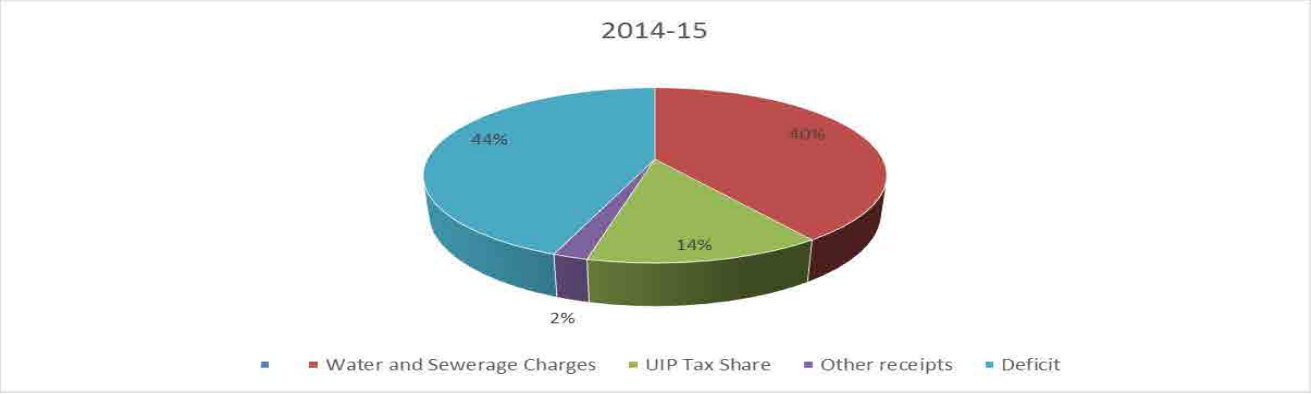
Deficit Analysis

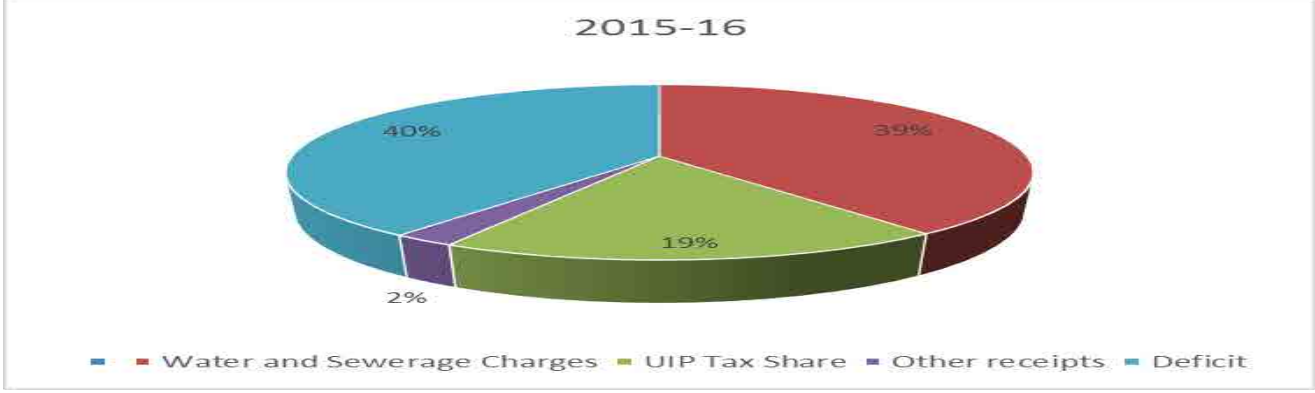
Step 1

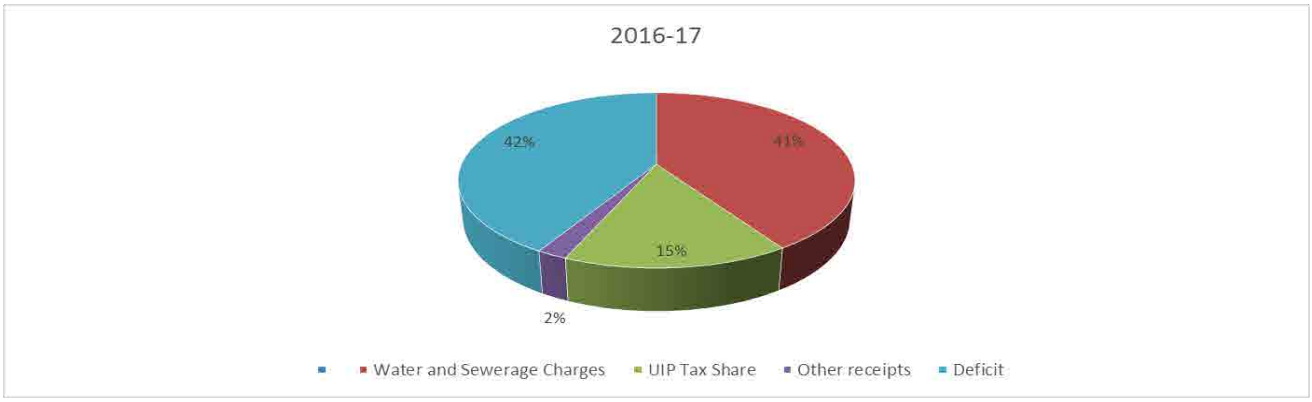
	2014-15	2015-16	2016-17
	Rs. in (million)		
Total Operational Receipts	4,089	4,483	5,279
Total Operational Expenditure	7304.94	7436.82	9033.4
Deficit / Surplus	**(3,215.94)**	**(2,953.82)**	**(3,754.40)**

Step 2

	2014-15	2015-16	2016-17
Water and Sewerage Charges	2,925	2,928	3,689
UIP Tax Share	1,014	1,381	1,400
Other receipts	150	175	191
Deficit	**3,216**	**2,954**	**3,755**







Reasons for GAP

Sr. No.	Reasons For Operational Deficit	Priority			
		Critical	High	Medium	Low
1	High electicity consumption		1		
2	low recovery	1			
3	poor distribution of bills	1			
4	long process of resolving consumer complaints		1		
5	Low water supply		1		
6	Consumer installation of his own injector pump		1		
7	Un-trained field staff		1		
8	Non Revenue water	1			

Target Setting

			Target		
Indicator	Unit	Current Status	2017-18	2018-19	2019-20
Operational deficit	(% of Operational Expenditures)	58%	20	20	18

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex E-Performance Improvement Plan.

		Short Tem (2017-18) 1 Year			
Sr. #	**Areas of Improvement**	**Action Plan**	**Location**	**Budget**	**Responsible staff/ Supervision**
1	**MORE FILTERATION PLANS**	**INSTALLATION OF NEW PLANTS**	**GREEN TOWN AND TOWN SHIP**	**2 MILLION**	**SDO**
2	**GOOD CONDITION PIPE LINES**	**MONITORING**	**GREEN TOWN AND TOWN SHIP**	**0.5 MILLIONS**	**XEN**

	Medium Term (2018-21) 3 Years				
Timeline	**Action Plan**	**Location**	**Budget**	**Responsible staff/ Supervision**	**Timeline**
2 MONTHS	**INSTALLATION OF NEW PLANTS**	**NISHTER TOWN**	**15.5 MILLIONS**	**SDO**	**2 YEARS**
2 MONTHS	**MONITORING**	**NISHTER TOWN**	**1 MILLION**	**XEN**	**2 YEARS**

WASA Lahore

Business Plan

For FY 2017-18 to FY 2019-20

Annex F - Communication and Customer Service Improvement Plan

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	NO PROPER WAY OF COMMUNICATION	SMS , NEWPAPERS	Asst. Director (Info)	1-Jan-18	15-01-18	COMMUNICATION
2	LACK OF AWARENESS	ADVERTISEMENT,	Asst. Director (Info)	16-01-18	30-01-18	AWARENESS
3	Genral Public	Quarterly published News letter	Asst. Director (Info)	1/2/2018	15-02-18	Water saving

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex G - Training Plan

Date and Time	Course Title	Level	Aims	Objectives	Training Methods
01-01-18 TO 06-01-18	HEALTH TIPS	BASIC	1. PROJECT DETAIL AND COMMUNICATION. 2.INCREASE CUSTOMER SATISFACTION	1. Cost Saving 2. Time Saving 3. Revenue Collection 4. Improve emplyees benefits 5. Improve Service Quality	Lectures,, fields visits
01-02-18 TO 28-02-18	Waste water treatment	Basic	Project detail, basic information, Methdology	Understanding the waste water treatment for the basic needs	Fields visit, lectures, Workshops case studies

Location	Materials
Al-Jazari Academy	Handouts / Slides/ LAPTOPS/ GROUP ACTIVITY
Al-Jazari Academy	Rules Book & Stationary

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex H - Financial Improvement Plan

Action Plan for Improvement of Outdated Consumer Database

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	policies	new policies	Management	1/1/2018	30-01-18	
2	public awareness	advertising , sms service	DDR	1/1/2018	15-01-18	
3	Political pressure	management should involve	MD,DMD, DR			
4	Collection efficiency	training and motivation of staff, and incentives	DDR			

Action Plan for Improvement in Bill Distribution and Receipt

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	improper address	up date data base	DDR			
2	non distribution of bills	motivate staff, awareness through sms	DDR			
3						

Action Plan for Improvement in Arrears Recovery and Collection Efficiency

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	political pressure	management should involve				
2	public awareness	compain,advertising				
3						

Action Plan for Additional Sources of Revenue

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Additional business	Build up bottling Plant	Management			
2	Useless Land	Const. of shopping Mall/ Retaurant on useless land	Management			
3	Use of OHR for Advertising	Lease OHR for Advertising	Management			
4	Revenue	Installation of bill boards on building	Management			

WASA Lahore
Business Plan Format
For FY 2017-18 to FY 2019-20

1. Vision/ Mission (Annex-A)

"To be best service provider in the field of water,sewarge and drainage to the citizens of Lahore".

"Preservation of underground water and providing highest value to the customers, maintaning welfare of employees and ensure financial viability of WASA".

2. Basic Information: (Annex- B).

4. SWOT Analysis: (Annex-C).

5. GAP Analysis & Target Setting of Key Performance Indicators (KPIs) (Annex-D)

6. Performance/ Services Improvement Plan (Short Term, Medium Term and Long Term) (Annex-E)

7. Communication Plan (Annex-F)

8. Training Plan (Annex-G)

9. Financial Improvement Plan (Annex-H)

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex A - Vision & Mission Statements

Vision Statement

"To be best service provider in the field of water,sewarge and drainage to the citizens of Lahore.

Mission Statement

"Preservation of underground water and providing highest value to the customers, maintaning welfare of employees and ensure financial viability of WASA".

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex B-Key Information (15th Feb 2017).

Sr #	Description	Unit	Value	Remarks
1	Total Population in Area	No.	6,310,000	
2	Population with Water Service	No.	5,679,000	
3	Population with Sewerage Service	No.	5,704,240	
4	Total Water Production	Gallons/day	442,000,000	2012.89liters/day
5	Total Water Sold	Gallons/Year	161,330,000,000	
6	Metered (Functioning) Water Sold	Gallons/Year	8,066,500,000	
7	Free Water	Gallons/Year	9,679,800,000	
8	Total number of Water connections	No.	651,867	
9	Number of Metered Connections	No.	67,535.00	
10	Number of Functioning Metered Connections	No.	31,034	
11	Total number of Sewerage connections	No.	654,063	
12	Length of Water Pipelines	KM	5890Km	
13	Length of Sewerage Pipelines	KM	4,334 Km	
14	Number of Water pipeline breakages	No./Year	0.096breaks/km/year	
15	Number of Sewerage line breakages	No./Year	-	
16	Number of Sewerage line Blockages	No./Year	16.6 blocks/km/year	
17	Number of Water pipeline leakages	No./Year	1.304leaks/km/year	
18	Total Operating Cost (O+R&M+HR+Fin)	Rs./Year	7436.819million	
19	Operating Cost (Electricity + Fuel)	Rs./Year	3080.068million	
20	Human Resource Cost	Rs./Year	2554.923million	
21	Repair & Maintenance Cost	Rs./Year	1035.962million	
22	Annual amount of Bill Distribution	Rs./Year	2624million	
23	Amount of Bill Collection (Ex-Arrears)	Rs./Year	2350million	
24	Amount of Arrears Collected	Rs./Year	680millio	
25	Total Number of Water Quality Samples	No./Year	9,125	
26	Biological Unfit Samples	No./Year	730	
27	Residual Cholorine Unfit Samples	No./Year	648	
28	Total Number of Complaints	No./Year	81,664	
29	Number of Water Complaints	No./Year	8,409	
30	Number of Sewerage Complaints	No./Year	73,255	

[WASA, LDA, LAHORE]
Business Plan
For FY 2017-18 to FY 2019-20

Advanced SWOT Analysis

Internal Factors / External Factors	Strengths (S)	Weaknesses (W)
	S1: Assets. **S2:** HR. **S3:** Better Water Lines System. **S4:** More Than 500 Tubewells. **S5:** Monopoly. **S6:** Computerized Complaint Management Cell (CMC). **S7:** Qualified Staff.	**W1** Political Pressure. **W2** Illegal Connections & NRW. **W3** Less Billing Recovery. **W4** Shortage of Funds. **W5** Poor Sewerage System. **W6** No coordination with Govt. departments. **W7** Deficit Budget.
Opportunities (O) **O1:** Utilization of Rain Water. **O2:** Utilization of Irrigation Water. **O3:** Private Housing Schemes can avail our services. **O4:** Public may aware after some time. **O5:** Donor Agencies may help us. **O6:** May more earnings from U.I.P Tax. **O7:** Govt. may approve revised tariff rates.	**Strengths & Opportunities (SO)** 1- Through S7 and O5 we can give better feedback to our clients. 2- Through S5 and O1 , O2 we can save our underground water. 3- Through S5 and O3 we can increase our revenue.	**Weaknesses & Opportunities (WO)** 1-Through W3 and O4 we can increase the level of recovery and overcome the issue of funds. 2- Through W5 and O4 we can better facilitate to our clients. 3- Through W4 and O7 we can overcome the issue of shortage of funds.
Threats (T) **T1:** Undergroung water level decreasing day by day. **T2:** Increase of Water Demand. **T3:** Subsidy on Electricity Bills can be removed at any ti **T4:** Increase of area. **T5:** Contaminated Underground Water. **T6:** Health Issues. **T7:** Target may not achieved if Govt Stops grants.	**Strengths & Threats (ST)** 1- Through S5 and T2 we can earn revenue. 2- Through S4 and T2 we can earn revenue. 3- Through S3,S4,S5 and T4 we can increase our revenue income.	**Weaknesses & Threats (WT)** 1- Through W7 and T7 we may face many problems to facilitate our clients. 2- Through W4 and T2 we can increase our revenue income. 3- Through W4 and T4 we may face many financial problems.

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex D: GAP Analysis & Target Setting of Key Performance Indicators (KPIs)

Conditional Assessment

WASA	Gaps	Base Line		Target Year 1 (25%)		Target Year 2 (40%)		Target Year 3 (35%)	
		Poor D	Fair C	Poor D	Fair C	Poor D	Fair C	Poor D	Fair C
Lahore	Pumping Pumps Efficiency	278	75	70	19	111	30	97	26
	TubeWells	19	60	5	15	8	24	7	21
	Disposal Stations	21	64	5	16	8	26	7	22
	OHR	100	0	25	0	40	0	35	0

Costing and Budgeting

WASA	Gaps	Base Line	Target Year 1 (25%)	Target Year 2 (40%)	Target Year 3 (35%)
Lahore	Peak Unit Consumption (PKR M)	32343009	8085752	12937204	11320053
	MDI Unit Consumption (PKR M)	40%	10%	16%	14%
	Power Factor Penalty (PKR M)	21.3	5	9	7
	Non-Revenue Water (%)	40%	10%	16%	14%

Costing and Budgeting

WASA	Taks	Cost Year 1	Cost Year 2	Cost Year 3	Total Cost
	Low & Fair Pump's Pumping Efficiency (No's)	89,000,000	141,000,000	124,000,000	354,000,000
	Peak Unit Consumption	8,085,752	12,937,204	11,320,053	-

Lahore	MDI Unit Consumption	10.0%	10.0%	10.0%	-
	Power Factor Penalty	500,000	700,000	800,000	2,000,000
	Non-Revenue Water (%)	500,000	500,000	500,000	1,500,000

Service Improvement

Type	Base Line			Targets C			Targets D			Targets F		
	C (Length) (m)	D (Length) (m)	F (Length) (m)	Y 1 (Length) (m)	Y 2 (Length) (m)	Y 3 (Length) (m)	Y 1 (Length) (m)	Y 2 (Length) (m)	Y 3 (Length) (m)	Y 1 (Length) (m)	Y 2 (Length) (m)	Y 3 (Length) (m)
Water	865,684	305,627	18,967	86,568	259,705	519,410	61,125	106,969	137,532	9,484	4,742	4,742
				10%	30%	60%	20%	35%	45%	50%	25%	25%
Sewerage	25,860	10,928	6,570	7,758	10,344	7,758	3,278.40	3,824.80	3,824.80	3,285	1,642.50	1,642.50
				30%	40%	30%	30%	35%	35%	50%	25%	25%

Collection Efficiency (GAP Analysis & Target Setting)

			Target		
Indicator	Unit	Current Status	2017-18	2018-19	2019-20
Collection Efficiency (Physical)	%	64	70	85	92
Collection Efficiency (Financial)	%	60	65	75	80

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Performance Improvement Plan

		Short Tem (2017-18) 1 Year			
Sr. #	**Areas of Improvement**	**Action Plan**	**Location**	**Budget**	**Responsible staff/ Supervision**
1	24/7 Water Supply System	REHABITIATION OF OHR	Riwaz Garden to Urdu Nagar	3,600,000	X.EN ,SDO,OS
		TUBEWELL REHABILITIATION		3,200,000	X.EN ,SDO,OS
		PIPE(9") REPALCEMENT		1,805,477	X.EN ,SDO,OS
		INSTALLATION OF WATER METER		700,000	DR, XEN & SDO
		SCADA SYSTEM MONITORING		500,000	Director O&M (GBT)
2	Sewerage System	LAY OF S/S IN DIFFERENT STREETS OF RIWAZ GARDEN	Lahore	9,000,000	X.EN ,SDO,OS
3	Waste Water Treatment Plant	CONSTRUCTION OF 01 NO PLANT	Bund Road	150,000,000	MD, DMD (E.), DMD (O&M)

	Medium Term (2018-21) 3 Years				
Timeline	**Action Plan**	**Location**	**Budget**	**Responsible staff/ Supervision**	**Timeline**
2 MONTHS		Riwaz Garden to Urdu Nagar			
2 MONTHS					
1 YEAR	PIPE(12") REPALCEMENT		3,653,238	X.EN ,SDO,OS	TWO YEARS
6 MONTHS	INSTALLATION OF WATER METER		2,100,000	DR, XEN & SDO	TWO YEARS
6 MONTHS	SCADA SYSTEM MONITORING		1,500,000	Director O&M (GBT)	TWO YEARS
1 YEAR	LAY OF S/S IN DIFFERENT STREETS OF RIWAZ GARDEN	Lahore	25,000,000	X.EN ,SDO,OS	TWO YEARS
I YEAR	CONSTRUCTION OF 02 NO's PLANT	Ferozpur Road	300,000,000	MD, DMD (E.), DMD (O&M)	TWO YEARS

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex F - Communication and Customer Service Improvement Plan

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Social Media Interaction	Social Media must be used for awareness and responsibilities	Top Management, PRO, A.D (S.M)	01-12-17	05-12-17	Monitoring of Public Awareness & Feedback
2	Inefficient Printing Media	Message should be efficient	Top Management, PRO, A.D (S.M)	22-12-17	24-12-17	Efficient Message
3	Internal Communication	Training	Officer / Offcials	01-12-17	07-12-17	Achievement of Goals
4	Office Circulars	Training	Top Management	01-12-17	07-12-17	Surety that Everyone get the Message
5	No Seminars and Workshops	Seminars and Workshops should be conducted for both employees and public	Top Management & A.D (S.M)	10-12-17	15-12-17	Public Awareness

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex G - Training Plan

Date and Time	Course Title	Level	Aims	Objectives
01-12-17 to 07-12-17	Training of bulk water meters	INTERMEDIATE	understanding of water production	increase technical knowledge
09-12-17 to 13-12-17	prepration of final accounts and audit paras	INTERMEDIATE	finalization of accounts and settlement of paras	1.Reliable financal statements 2)decrease in audit paras
15-12-17 to 17-12-17	Improvement in leadership skills and motivational level	ADVANCE	To improve the motivation in staff	Improvement in performance of employ
19-12-17 to 21-12-17	Learining of software related to NRW	ADVANCE	how to calculate NRW	Reduce NRW
22-12-17 to 23-12-17	Understanding of PPRA RULES	ADVANCE	understanding of Rules	Creating awareness regarding rules and regulations
26-12-17 to 31-12-17	arear recovery strategies	ADVANCE	understanding of how to improve arear recovery	reduction in areears,handling of defaulters

Training Methods	Location	Materials	Assessment
field visits,workshops	WASA,Training Center	hand outs,PPt slides	employees feed back through evaluation forms
Group exercises,workshops,lectures		hand outs,PPt slides,manuals	
workshops,lectures,case studies,coaching		hand outs,PPt slides,videos	
workshop,lectures and demonstrations		hand outs,PPt slides,softwares,videos	
lecture,workshop,exercises		hand outs,PPt slides,manuals	
lecture,workshop,exercises		hand outs,PPt slides	

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex H - Financial Improvement Plan

Action Plan for Improvement of Outdated Consumer Database

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Non authentic information about consumer	Trained staff should be order to work in field ,updation of daily basis data,maintenance of softwares,incentives to staff	field inspector,supervisior,AD computer	01-12-17	03-12-17	revenue enhancement,Billing and Arrear improvement
2	Consumer resistance for provision of data	staff attitude should be positive,Geographical information should known,staff trained in public dealing	HR,Social Mobilizaer,AD Revenue,Data entry operator,SDO	05-12-17	07-12-17	Updated and accurate consumer data
3	Inefficient updation of consumer record	centeralized system to monitor Data base	EDP,IT department	10-12-17	12-12-17	Time saving,electronic billing,accurate analysis of consumer report

Action Plan for Improvement in Bill Distribution and Receipt

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Bill delivery is not 100%	outsource as a pilot project	third party	01-12-17	03-12-17	recovery from arrear,increase in no of paying customer

2	Bill distributor and recovery staff are same / non rotation of staff	job rotation of bill distributor	supervisior,AD Revenue	05-12-17	07-12-17	Revenue enhancement,increase in no of paying customer
3	Limited modes of payment	no of banks enhanced,mobil services,online payment	EDP,Finance	10-12-17	12-12-17	customer satisfaction,increase in recepits

Action Plan for Improvement in Arrears Recovery and Collection Efficiency

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Difficulty in disconnection	standardize procedure for installation	SDO	01-12-17	03-12-17	increase recovery,Arrear reduction,increase in disconnection of defaulters
2	Criminal resistance	effective law and enforcement	Tehsil dar ,Megistrate	05-12-17	07-12-17	increase recovery,Arrear reduction
3	Unmotivated field staff	perks and fringe benefits	Top Management	10-12-17	12-12-17	efficiency of collection increase

Action Plan for Additional Sources of Revenue

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Non utilization of land	lease aggrement	FA&R Department	01-12-17	03-12-17	Maintenace of land,revenue enhancement
2	non utilization of OHR	use as advertizing source for different sectors,lease aggrement with telecommunication sector	FA&R Department,engineering wing	05-12-17	07-12-17	revenue enhancement

3	low water quality	water bottles sale should be consider,filteration plant should be installed	engineering wing	10-12-17	12-12-17	revenue enhancement,increase customer trust

BUSINESS PLAN FOR WASA FAISALABAD

PRESENED BY :

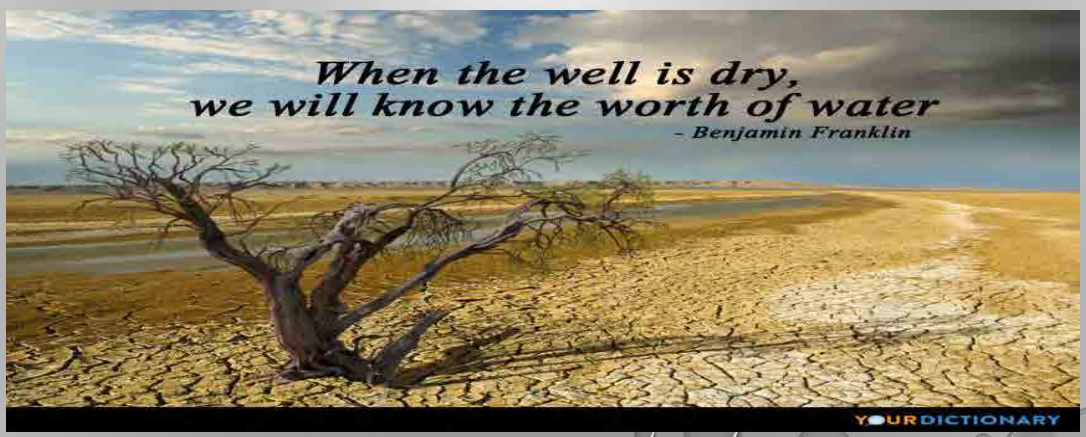
MS. SANA MEHBOOB ASSISTANT DIRECTOR

AND

MR. QAISER RASUL ASSISTANT DIRECTOR

CORE THEME OF THE DEPARTMENT

"Conserve the water for next generations"



VISION

To provide sustainable water and sewerage services by exploring community needs and prove to be the leader in the service sector of the country.

MISSION STATEMENT

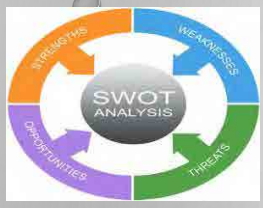
To make our customers feel welcome, appreciated, and worthy of our best efforts in everything we do for providing water supply, sewerage and drainage services.

BASIC INFORMATION

- Faisalabad is the third leading city of Pakistan and second in province Punjab. The city has grown rapidly from a population of 70,000 in 1947 to presently about 3.2 million. The river Chenab flows about 30KM to the north west while river Ravi is about 40KM to the south east. The quality of Faisalabad's ground water except some localities near Rakh branch canal, is quite saline and not fit for human consumption. The city was first provided potable water in 1903 and the water works were augmented over the years, including supply of filtered water in 1939. During 1960, a partial sewerage system was introduced to provide facilities to around 0.2 million population. Up to 1978, the Faisalabad municipal corporation (FMC) operated the water supply and sewerage system in Faisalabad.

Water and sanitation agency, commonly known as WASA, subsidiary of Faisalabad development authority, (FDA) was established on April 23, 1978 under the development of cities act 1976 with a view to providing and catering for the services with regard to water supply, sewerage and drainage. The WASA Faisalabad is administratively aligned to “housing urban development and public health engineering department (HUD&PHED)” of the government of Punjab. Presently, total service area of WASA Faisalabad is 225 sq. Km that includes 113 urban union councils of four towns with total registered consumers 2, 60,000. It is estimated that WASA provides about 72% of the city with sewerage services and about 60% with water services.

FORMULATION OF BUSINESS PLAN



SWOT ANALYSIS

Internal Factors	
Strengths (S)	**Weaknesses (W)**
Water quality as per standard of WHO Customer Complaint Center WASA Official Whats app Group Establishment of CLC itizen Liason Cell Deputation of Squad in Revenue Field Water Bottling Service Adoption of Automation system in finane	inefficient billing distribution system Non availability of Mettering System Non Revenue Water shortage of trained staff Lack of Public Awareness/media compeign Problems of poor Infrastructe Low Tarrif
Opportunities (O)	**Threats (T)**
advantage over other brandsof botling service expand the area of jurisdiction higher the rate of revenue for sustainability instant rectification of public issues by customer feed back Foreign donars and projects Small Water Groups for Revenue collection against the services provided accuracy and reliability	Non treatment of waste water lack of legal protection to staff misuse of water resoursec as illegal connection Contiminated water and outdated lines ristriction on increase of tarriff government policies Enrironmental and pollution threats

GAP ANALYSIS & TARGET SETTING OF KEY PERFORMANCE INDICATORS (KPIS)

Conditional Assessment

WASA	Gaps	Base Line		Target Year 1		Target Year 2		Target Year 3	
		Poor D	Fair C	Poor D	Fair C	Poor D	Fair C	Poor D	Fair C
Lahore/ Gujranwala/ Multan/ Faisalabad/ Rawalpindi/ NSUSC	Low & Fair Pump's Pumping Efficiency (No's)	29	12	13	4	10	5	6	3
	Tube well Condition	2%	0	2%	0	0	0	0	0
	Disposal Condition	42%	51%	17%	20%	12%	15%	13%	16%
	OHR Condition	Non working	Non Working	Plan to Install 20 of Good Quality					

Costing and Budgeting

WASA	Gaps	Base Line	Target Year 1	Target Year 2	Target Year 3
Lahore/ Gujranwala/ Multan/ Faisalabad/ Rawalpindi/ NSUSC	Peak Unit Consumption (PKR M)	2.03	1	0.5	0.25
	MDI Unit Consumption (PKR M)	45%	15%	10%	12%
	Power Factor Penalty (PKR M)	5.4	2	2	1.4
	Non-Revenue Water (%)	45%	20%	10%	5%

BUDGET AND COST ESTIMATES

BUDGET ESTIMATES FOR THREE YEARS : YEAR 1 = 25 MILLION YEAR 2 = 30 MILLION YEAR 3 = 33 MILLION

COST ESTIMATES OF FIDDERENT EQUIPMENTS:

(PR) = PUMP REPLACEMENT = .3 MILLION

(IR) IMPELLER REPAIR = .1 MILLION

(CI) CAPISTAR INSTALLATION = .025 MILLION

(NT) = NEW TUBEWELL = 12 MILLION

COST COMPONENTS TO REDUCE 1% NRW

1. REPLACEMENT OF WATER SUPPLY LINES

2. SURVEY AND DETECTION OF ILLEGAL WATER CONSUMERS.

3. REPIAR OF LEAKAGE WATER SUPPLY LINES

1 % NRW REDUCTION =RS. 0 .4 MILLION

Costing and Budgeting

WASA	Taks	Cost Year 1	Cost Year 2	Cost Year 3
Lahore/ Gujranwala/ Multan/ Faisalabad/ Rawalpindi/ NSUSC	Low & Fair Pump's Pumping Efficiency (No's)	1*12 = 12 Million/NT +5*.3 = 1.5 Million/PR+ 10*.1 = 1 Million /IR	2*12 = 24 Million/NT +5*.3 = 1.5 Million/PR+ 10*.1 = 1 Million /IR	2*12 = 24 Million/NT +5*.2 = 1 Million/PR+ 5*.1 = .5 Million /IR
	Peak Unit Consumption (PKR M)	Notification to reduce 25% paek unit / responsibilty fixation	Notification to reduce 25% paek unit / responsibilty fixation	Notification to reduce 25% paek unit / responsibilty fixation
	MDI Unit Consumption (PKR M)	instruction to not operate beyond sanctioned capacity allowed by FESCO	instruction to not operate beyond sanctioned capacity allowed by FESCO	instruction to not operate beyond sanctioned capacity allowed by FESCO
	Power Factor Penalty (PKR M)	14*.025 = .35 Million	5*.025 = .125 Million	10*.25 = 2.5 Million
	Non-Revenue Water (%)	8 Million	4 Million	4 Million
Total cost >>		22.85 Million	30.63 Million	32 Million
Surplus / (sharotfall) in Rs. Million		2.15	-0.63	1.0

Service Improvement

Type	Base Line			Targets B			Targets C		
	B (Length) (m)	C (Length) (m)	D (Length) (m)	Y 1 (Length) (m)(30%)	Y 2 (Length) (m)(50%)	Y 3 (Length) (m)(20 %)	Y 1 (Lengt h) (m)(50 %)	Y 2 (Length) (m)(30 %)	Y 3 (Length) (m)(20 %)
Water	13,853	1,455	-	4,156	6,927	2,771	728	437	291
Sewerage	6,792	5,662	-	4,156	6,927	2,771	728	437	291

Collection Efficiency (GAP Analysis & Target Setting)

			Target		
Indicator	**Unit**	**Current Status**	**2017-18**	**2018-19**	**2019-20**
Collection Efficiency (Physical)	**%**	**29**	**40**	**50**	**70**
Collection Efficiency (Financial)	**%**	**73**	**85**	**95**	**100**

PERFORMANCE IMPROVEMENT PLAN.

		Short Tem (2017-18) 1 Year					Medium Term (2018-21) 3 Years				
Sr. #	**Areas of Improvement**	**Action Plan**	**Location**	**Budget**	**Responsible staff/ Supervision**	**Timeline**	**Action Plan**	**Location**	**Budget**	**Responsible staff/ Supervision**	**Timeline**
1	**24/7 PRESSURIZED SYSTEM**	**OHR REHABILITATION**	**Faisalabad**	**16,250,000**	**X.EN ,SDO,OVERSEAR**	**6 MONTHS**					
		TUBEWELL REHABILITIATION		**2,000,000**	**X.EN ,SDO,OVERSEAR**	**6 MONTHS**					
		PIPE(6") REPALCEMENT		**4,910,000**	**SDO,OVERSEAR**	**6MONTHS**	**PIPE(6") REPALCEMENT**	**Faisalabad**	**2,000,000**		**ONE YEAR**
		INSTALLATION OF WATER METER		**16,250,000**	**VENDOR,SDO. OVERSEAR,**	**6 MONTHS**	**INSTALLATION OF WATER METER**		**1,000,000**		**TWO YEARS**
		SCADA SYSTEM MONITORING		**10,000,000**	**SCADA EXPERT,XEN ELECTRICITY**	**6 MONTHS**	**SCADA SYSTEM MAINTENANCE**		**1,0000,000**		**TWO YEARS**

2	SUSTAINABILITY OF WATER	SURFACE WATER TREATMENT RAIN WATER HARVESTING	Faisalabad	200,000,000 100,000,000	HIGHER MANAGEMENT AND CONSULTANCY SERVICES	I YEAR IYEAR	SURFACE WATER TREATMENT RAIN WATER HARVESTING	Faisalabad	10,000,000 5,000,000	HIGHER MANAGEMENT AND CONSULTANCY SERVICES	TWO YEARS
3	INSTALLATION OF WASTE WATER TREATMENT PLANT	WASTE STABILIZATION POND	Muddoana Drain (Faisalabad)	100,000,000	HIGHER MANAGEMENT AND CONSULTANCY SERVICES	I YEAR	INSTALLATION OF WASTE WATER TREATMENT PLANT	Muddoana Drain (Faisalabad)	50,000,000	HIGHER MANAGEMENT AND CONSULTANCY SERVICES	TWO YEARS

COMMUNICATION AND CUSTOMER SERVICE IMPROVEMENT PLAN

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Lack of internal communication	Publication of News letter on monthly basis	PRO, Focal persons	Continious process		Uodation of staff regarding on going activities
2	Lack of public awareness	use of social mobilization team and use social media	Top management			To imrove the soft image of department and positive use of department services
3	Customer feedback and CMS	establishment of One Window counter	Middle level Management (DO level)			Record of complaints and movement towards concerned directorate
4	Brand advertisement (WASA water bottling service)	Media compaign	PRO, Top management			Projection of department services
5	Lack of co-ordination among directorates	Use of notice board, monthly meetings, informal discussion groups	Administration , Top Management			down to top communication and formulation of new action plan

TRAINING PLAN

Date and Time	Course Title	Level	Aims	Objectives	Training Methods	Location	Materials	Assessment
21/12/2017 to 25/12/2017	Training of Financial module	Basic	Provides basic understanding of Financial software and accurate data input by the operators	increase technical knowledge	Presentations, Training sessions	Committee Room WASA, Faisalabad	hand outs,PPt slides	employees feed back through evaluation forms
22/12/2017 to 23/12/2017	preparation of final accounts and audit paras	Intermediate	finalization of accounts and settlement of paras	1.Reliable financial statements 2)decrease in audit paras	Group exercises,workshops,lectures	Committee Room WASA, Faisalabad	hand outs,PPt slides,manuals	employees feed back through evaluation forms
26/12/2017 to 27/12/2017	Installation and reading of Water meter	Intermediate	To provide installation and reading techniques	proper installation and accurate meter reading	Practical training and on job training	Field area / sub divisions	Manual,videos	through Practical Demonstration in field
28/12/2017 to 29/12/2017	Record Keeping Skills	Intermediate	To improve the record keeping techniques	Development of Efficient Database	Presentations, Training sessions	Committee Room WASA, Faisalabad	Power Point, Manuals, Hand outs	Assesment form collection
30/12/2017 to 01/01/2018	Survey and Recovery techniques	Basic	To enhance the efficiency of Survey and recovery teams	Maximization of Revenue and Increase in consumers	Training Session, Group discussion and on sites training,	WASA Resource Center, Faisalabad and concerned Revenue subdivision	Power Point, SOPs Booklet	through Practical Demonstration

FINANCIAL IMPROVEMENT PLAN

ACTION PLAN FOR IMPROVEMENT OF OUTDATED CONSUMER DATABASE

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Outdated consumer Data base	Collection of updated records from consumer and timely updation for billing and recovery	Bill distributor / Field Officer, DD IT	01-Jul-17	30-Jun-20	Resolution of publlic disputes , Proper billing , Increase in revenue collection

ACTION PLAN FOR IMPROVEMENT IN BILL DISTRIBUTION AND RECEIPT

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Inefficient billing system	outsource as a pilot project	Top Management , Concerned RO and Bill distribution company	01-Jul-17	30-Jun-20	Proper bill distribution and probability of increase in No of payees.
2	Undelivered bills	Analysis of undelivered bills and redistribution after necessary action	RO,AD, billing company	01-Jul-17	30-Jun-20	Increase in No of payees and revenue collection
3	Consumer complaints	Consumer complaint registeration and surprise visits of billing area	RO , AD of the concerned subdivision and Billing company	01-Jul-17	30-Jun-20	Keep track of billing progress and rectification of billing complaints
4	Problem in bill collection	TO enhance no of banks / collection centers	Finance , Top management	01-Jul-17	continiou s	increase in collection efficiency

ACTION PLAN FOR IMPROVEMENT IN ARREARS RECOVERY AND COLLECTION EFFICIENCY

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Inefficient billing system	outsource as a pilot project	Top Management , Concerned RO and Bill distribution company	01-Jul-17	30-Jun-20	Proper bill distribution and probability of increase in No of payees.
2	Undelivered bills	Analysis of undelivered bills and redistribution after necessary action	RO,AD, billing company	01-Jul-17	30-Jun-20	Increase in No of payees and revenue collection
3	Consumer complaints	Consumer complaint registeration and surprise visits of billing area	RO , AD of the concerned subdivision and Billing company	01-Jul-17	30-Jun-20	Keep track of billing progress and rectification of billing complaints
4	Problem in bill collection	TO enhance no of banks / collection centers	Finance , Top management	01-Jul-17	continious	increase in collection efficiency

ACTION PLAN FOR IMPROVEMENT IN ARREARS RECOVERY AND COLLECTION EFFICIENCY

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Inefficient billing system	outsource as a pilot project	Top Management , Concerned RO and Bill distribution company	01-Jul-17	30-Jun-20	Proper bill distribution and probability of increase in No of payees.
2	Undelivered bills	Analysis of undelivered bills and redistribution after necessary action	RO,AD, billing company	01-Jul-17	30-Jun-20	Increase in No of payees and revenue collection
3	Consumer complaints	Consumer complaint registeration and surprise visits of billing area	RO , AD of the concerned subdivision and Billing company	01-Jul-17	30-Jun-20	Keep track of billing progress and rectification of billing complaints
4	Problem in bill collection	TO enhance no of banks / collection centers	Finance , Top management	01-Jul-17	continious	increase in collection efficiency

ACTION PLAN FOR IMPROVEMENT IN ARREARS RECOVERY AND COLLECTION EFFICIENCY

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Outdated data base and aging of arrear	To update consumer data base and aging of arrears	DD IT, Concerned RO	01-Jul-17	30-Jun-20	reduction in arrear and increase in collection efficiency
2	Bill amnesty scheme / discounts	To encourage consumers for full payment of dues and negotiation and settlement with illegal users	DD , AD and RO	01-Jul-17	30-Jun-20	Reduction in NRW and improvement in data base alonwith arrear collection efficiency.
3	Political interference	Meting with political representatives and opinion leaders to address class of consumers " Do not want to Pay" and change the mind setup	Top Management, Director Revenue	01-Jul-17	30-Jun-20	Trend of public to pay wasa bills timely , improvement in soft image of department
4	Lack of Legal framework	Formulate legal framework t o exercise strict legal action against chronic defaulter and illegal users	Tehsil dar ,Megistrate	01-Jul-17	30-Jun-20	Increase in total consumers and payees along with collection efficiency
5	Lack of motivation in field staff	To provode specific percentage of chronic arrear collected and provosion of official fuel / conveyance	Top Management	01-Jul-17	30-Jun-20	Performance improvement and increase in revenue recovery.

ACTION PLAN FOR ADDITIONAL SOURCES OF REVENUE

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Non utilization of Land	Lease agreement and rent of constructed shops / commercial Plaza	Estate Management Cell, Top Management	01-Jul-17	30-Jun-20	Increase in Revenue
2	Non utilization of OHR	use as advertising source for different sectors, lease agreement with telecommunication sector to install towers	Estate Management Cell, Top Management	01-Jul-17	30-Jun-20	Increase in Revenue
3	Lack of additional source of income	To make arrangment with Shell company to setup a petrol pump on wasa land without rent and to provide fuel to the wasa vehicles and general public and share profits in specified ratio	Top management , Estate management cell	01-Jul-17	30-Jun-20	reduction and control on fuel expenditures of vehicle and increase in additional revenue
4	Non utilization of waste water	sale of waste water to the local lanlords for cultivation purpose.	Dir Revenue , Top Management	01-Jul-17	30-Jun-20	revenue enhancement, customer trust and loyality

ACKNOWLDGEMENT

WE APPRECIATE THE EFFORTS OF URBAN UNIT AND MANAGEMENT OF AL-JAZAIRI ACADEMY TO CONDUCT THIS REMARKABLE TRAINING SESSION ON BUSINESS PLANNING AND PROVIDED AN OPPORTUNITY TO ENHANCE OUR FINANCIAL AND STRATEGIC APPROACH TOWARDS ACHIEVMENT OF OBJECTIVES.WE DEDICATE THIS BUSINESS PLAN TO " MR. ASIF IQBAL , MR ALI RAO , SIR KARUDA ".

THANK YOU

WASA Faisalabad

Business Plan Format

For FY 2017-18 to FY 2019-20

1. Vision/ Mission (Annex-A)

conserve water for next generation.

2. Basic Information: (Annex- B).

4. SWOT Analysis: (Annex-C).

5. GAP Analysis & Target Setting of Key Performance Indicators (KPIs) (Annex-D)

6. Performance/ Services Improvement Plan (Short Term, Medium Term and Long Term) (Annex-E)

7. Communication Plan (Annex-F)

8. Training Plan (Annex-G)

9. Financial Improvement Plan (Annex-H)

WASA Faisalabad
Business Plan
For FY 2017-18 to FY 2019-20

Annex A - Vision & Mission Statements

Vision Statement

To provide sustainable water and sewerage services by exploring community needs and prove to be the leader in the service sector of the country.

Mission Statement

To make our customers feel welcome, appreciated, and worthy of our best efforts in everything we do for providing water supply, sewerage and drainage services.

WASA Lahore

Business Plan

For FY 2017-18 to FY 2019-20

Annex B-Key Information (15th Feb 2017).

Sr #	Description	Unit	Value	Remarks
1	Total Population in wasa jurisdiction	3.20 million		
2	Population with Water Service	1.92 million	60	percentage
3	Population with Sewerage Service	2.30 million	72	percentage
4	Total Water Production	Gallons/day	110 MGD	
5	Total Water Sold	0		
6	Metered (Functioning) Water Sold	Gallons/Year		40000 meters installed
7	Free Water	Gallons/Year		
8	Total number of Water connections	133000		
9	Number of Metered Connections	40000		
10	Number of Functioning Metered Connections	40000		
11	Total number of Sewerage connections	152927		
12	Length of Water Pipelines	1600 KM		
13	Length of Sewerage Pipelines	1767KM		
14	Number of Water pipeline breakages	No./Year		
15	Number of Sewerage line breakages	No./Year		
16	Number of Sewerage line Blockages	No./Year		
17	Number of Water pipeline leakages	No./Year		
18	Total Operating Cost (O+R&M+HR+Fin)	Rs./Year		
19	Operating Cost (Electricity + Fuel)	40%Rs./Year		
20	Human Resource Cost	48%Rs./Year		
21	Repair & Maintenance Cost	Rs./Year		
22	Annual amount of Bill Distribution	Rs./Year		
23	Amount of Bill Collection (Ex-Arrears)	Rs.700.5 Million/Year		
24	Amount of Arrears Collected	Rs.23166789/Year		
25	Total Number of Water Quality Samples	No./Year		
26	Biological Unfit Samples	No./Year		
27	Residual Cholorine Unfit Samples	No./Year		
28	Total Number of Complaints	No./Year		
29	Number of Water Complaints	No./Year		
30	Number of Sewerage Complaints	No./Year		

WASA Lahore

Business Plan

For FY 2017-18 to FY 2019-20

Annex C - SWOT Analysis

Internal Factors	
Strengths (S)	**Weaknesses (W)**
Water quality as per standard of WHO Customer Complaint Center WASA Official Whats app Group Establishment of CLC itizen Liason Cell Deputation of Squad in Revenue Field Water Bottling Service Adoption of Automation system in finane	inefficient billing distribution system Non availability of Mettering System Non Revenue Water shortage of trained staff Lack of Public Awareness/media compeign Problems of poor Infrastructe Low Tarrif
Opportunities (O)	**Threats (T)**
advantage over other brandsof botling service expand the area of jurisdiction higher the rate of revenue for sustainability instant rectification of public issues by customer feed back Foreign donars and projects Small Water Groups for Revenue collection against the services provided accuracy and reliability	Non treatment of waste water lack of legal protection to staff misuse of water resoursec as illegal connection Contiminated water and outdated lines ristriction on increase of tarriff government policies Enrironmental and pollution threats
External Factors	

WASA Lahore

Business Plan

For FY 2017-18 to FY 2019-20

Annex D: GAP Analysis & Target Setting of Key Performance Indicators (KPIs)

Conditional Assessment

WASA	Gaps	Base Line		Target Year 1		Target Year 2		Target Year 3	
		Poor D	Fair C	Poor D	Fair C	Poor D	Fair C	Poor D	Fair C
Lahore/ Gujranwala/ Multan/ Faisalabad/ Rawalpindi/ NSUSC	Low & Fair Pump's Pumping Efficiency (No's)	29	12	13	4	10	5	6	3
	Tube well Condition	2%	0	2%	0	0	0	0	0
	Disposal	42%	51%	17%	20%	12%	15%	13%	16%
	OHR Condition	Non working	Non Working	Plan to Install 20 of Good Quality					

Costing and Budgeting

WASA	Gaps	Base Line	Target Year 1	Target Year 2	Target Year 3
Lahore/ Gujranwala/ Multan/ Faisalabad/ Rawalpindi/ NSUSC	Peak Unit Consumption (PKR M)	2.03	1	0.5	0.25
	MDI Unit Consumption (PKR M)	45%	15%	10%	12%
	Power Factor Penalty (PKR M)	5.4	2	2	1.4
	Non-Revenue Water (%)	45%	20%	10%	5%

Costing and Budgeting

WASA	Taks	Cost Year 1	Cost Year 2	Cost Year 3
Lahore/ Gujranwala/ Multan/ Faisalabad/ Rawalpindi/ NSUSC	**Low & Fair Pump's Pumping Efficiency (No's)**	**1*12 = 12 Million/NT +5*.3 = 1.5 Million/PR+ 10*.1 = 1 Million /IR**	**2*12 = 24 Million/NT +5*.3 = 1.5 Million/PR+ 10*.1 = 1 Million /IR**	**2*12 = 24 Million/NT +5*.2 = 1 Million/PR+ 5*.1 = .5 Million /IR**
	Peak Unit Consumption (PKR M)	**Notification to reduce 25% paek unit / responsibilty fixation**	**Notification to reduce 25% paek unit / responsibilty fixation**	**Notification to reduce 25% paek unit / responsibilty fixation**
	MDI Unit Consumption (PKR M)	**insruction to not operate beyond sanctioned capacity allowed by fesco**	**insruction to not operate beyond sanctioned capacity allowed by**	**insruction to not operate beyond sanctioned capacity**
	Power Factor Penalty (PKR M)	**14*.025 = .35 Million**	**5*.025 = .125 Million**	**10*.25 = 2.5 Million**

	Non-Revenue Water (%)	8 Million	4 Million	4 Million
Total >>		22.85 Million	30.63 Million	32 Million
Surplus / (sharotfall) in Rs. Million		2.15	-0.63	1

Service Improvement

Type	Base Line			Targets B			Targets C	
	B (Length) (m)	C (Length) (m)	D (Length) (m)	Y 1 (Length) (m)(30%)	Y 2 (Length) (m)(50%)	Y 3 (Length) (m)(20%)	Y 1 (Length) (m)(50%)	Y 2 (Length) (m)(30%)
Water	13,853	1,455	-	4,156	6,927	2,771	728	437
Sewerage	6,792	5,662	-	4,156	6,927	2,771	728	437

Collection Efficiency (GAP Analysis & Target Setting)

			Target		
Indicator	Unit	Current Status	2017-18	2018-19	2019-20
Collection Efficiency (Physical)	%	29	40	50	70
Collection Efficiency (Financial)	%	73	85	95	100

Budget : Year 1 = 25 Million Year 2 = 30 Year 3 = 33

	Assumption to reduce 1% NRW include the rectification of following components:
(PR) = Pump replacement = .3 million	**1. replacement of water supply lines**
(IR) impeller repair = .1 million	**2. Survey and detection of illegal water consumers.**
(CI) capistar installation = .025 Million	**3. repiar of leakage water supply lines**

(NT) = New Tubewell = 12 million	**1 % NRW reduction = .4 Million**

2.5 0.2

	Targets D		
Y 3 (Length) (m)(20%)	**Y 1 (Length) (m)**	**Y 2 (Length) (m)**	**Y 3 (Length) (m)**
291			
291			

WASA Faisalabad
Business Plan
For FY 2017-18 to FY 2019-20

Annex E-Performance Improvement Plan.

		Short	
Sr. #	**Areas of Improvement**	**Action Plan**	**Location**
1	24/7 PRESSURIZED SYSTEM	OHR REHABITIATION	Faisalabad
		TUBEWELL REHABILITIATION	
		PIPE(6") REPALCEMENT	
		INSTALLATION OF WATER METER	
		SCADA SYSTEM MONITORING	
2	SUSTAINABILITY OF WATER	SURFACE WATER TREATMENT	Faisalabad
		RAIN WATER HARVESTING	
3	INSTALLATION OF WASTE WATER TREATMENT PLANT	WASTE STABILIZATION POND	Muddoana Drain (Faisalabad)

: Tem (2017-18) 1 Year			
Budget	**Responsible staff/ Supervision**	**Timeline**	**Action Plan**
16250000	X.EN ,SDO,OVERSEAR	6 MONTHS	
2000000	X.EN ,SDO,OVERSEAR	6 MONTHS	
4910000	SDO,OVERSEAR	6MONTHS	PIPE(6") REPALCEMENT
16250000	VENDOR,SDO,OVERSEAR,	6 MONTHS	INSTALLATION OF WATER METER
10000000	SCADA EXPERT,XEN ELECTRICITY	6 MONTHS	SCADA SYSTEM MAINTENANCE
200,000,000	HIGHER MANAGEMENT AND CONSULTANCY SERVICES	I YEAR	SURFACE WATER TREATMENT
100,000,000		IYEAR	RAIN WATER HARVESTING
100,000,000	HIGHER MANAGEMENT AND CONSULTANCY SERVICES	I YEAR	INSTALLATION OF WASTE WATER TREATMENT PLANT

Medium Term (2018-21) 3 Years			
Location	**Budget**	**Responsible staff/ Supervision**	**Timeline**
Faisalabad	**2000000** **1000000** **10000000**		**ONE YEAR** **TWO YEARS** **TWO YEARS**
Faisalabad	**10,000,000** **5000000**	**HIGHER MANAGEMENT AND CONSULTANCY SERVICES**	**TWO YEARS**
Muddoana Drain (Faisalabad)	**50,000,000**	**HIGHER MANAGEMENT AND CONSULTANCY SERVICES**	**TWO YEARS**

WASA Faisalabad
Business Plan
For FY 2017-18 to FY 2019-20

Annex F - Communication and Customer Service Improvement Plan

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Lack of internal communication	meetings with concerned officers regular basis	staff and concerned officer	1-Jul-17	1-Jul-20	monitoring of goals
2	Lack of office circulars	immediate officer should rotate the concerned information to staff	top management	1-Jul-17	1-Jul-20	ensure the information has communicated to everyone
3	No seminars and workshops	in schools and colleges seminars should be conducted for mass awareness	social mobilizzers and top management	1-Jul-17	1-Jul-20	ensure the awarness of public regarding utility
4	Lack of social media interaction	some website and social medias used to access public reviews	information techonology departemnt,social mobilizer,PRO,top management	1-Jul-17	1-Jul-20	publics feedback will be monitored
5	inefficient printing media	print idea about saving water resource on bill	Public Relation Officer,social mobilizer,electonic data entry department,printing department	1-Jul-17	1-Jul-20	improve awareness about water as a blessing

WASA Faisalabad
Business Plan
For FY 2017-18 to FY 2019-20

Annex G - Training Plan

Date and Time	Course Title	Level	Aims	Objectives	Training Methods
6 ,MARCH 2017-11, MARCH 2017	Training of Financial module	Basic	Provides basic understanding of Financial software and accurate data input by the operators	increase technical knowledge	field visits,workshops
27, APRIL 2017-30,APRIL 2017	prepration of final accounts and audit paras	INTERMEDIATE	finalization of accounts and settlement of paras	1.Reliable financal statements 2)decrease in audit paras	Group exercises,workshops,lectures
15,MAY2017-20,MAY 2017	Improvement in leadership skills and motivational level	ADVANCE	To improve the motivation in staff	Improvement in performance of employ	workshops,lectures,case studies,coaching
2,SEP 2017-6,SEP 2017	Learining of software related to NRW	ADVANCE	how to calculate NRW	Reduce NRW	workshop,lectures and demonstrations
12/15/2017 to 12/18/2017	Record Keeping Skills	Intermediate	To improve the record keeping techniques	Development of Efficient Database	Presentations, Training sessions
12/10/2017 to 12/14/2017	Survey and Recovery techniques	Basic	To enhance the efficiency of Survey and recovery teams	Maximization of Revenue and Increase in consumers	Training Session, Group discussion and on sites training,

Note: These training plans will remain in a cycle for different batches for FY 2017-2018 TO FY 2019-2020

12/10/2017 to 12/14/2017	Survey and Recovery techniques	Basic	To enhance the efficiency of Survey and recovery teams	Maximization of Revenue and Increase in consumers	Training Session, Group discussion and on sites training,
12/15/2017 to 12/18/2017	Record Keeping Skills	Intermediate	To improve the record keeping techniques	Development of Efficient Database	Presentations, Training sessions

Location	Materials	Assessment
WASA,Training center	hand outs,PPt slides	employees feed back through evaluation forms
	hand outs,PPt slides,manuals	
	hand outs,PPt slides,videos	
	hand outs,PPt slides,softwares,videos	
Committee Room WASA, Faisalabad	Power Point,Manuals, Hand outs	Assesment form collection
WASA Resource Center, Faisalabad and concerned Revenue subdivision	Power Point, SOPs Booklet	through Practical Demonstratio n

WASA Resource Center, Faisalabad and concerned Revenue subdivision	Power Point, SOPs Booklet	through Practical Demonstratio n
Committee Room WASA, Faisalabad	Power Point,Manuals, Hand outs	Assesment form collection

WASA Lahore
Business Plan
For FY 2017-18 to FY 2019-20

Annex H - Financial Improvement Plan

Action Plan for Improvement of Outdated Consumer Database

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	Non authentic information about consumer	Trained staff should be order to work in field ,updation of daily basis data,maintenance of softwares,incentives to staff	field inspector,supervisior,AD computer	1-Jul-17	1-Jul-20	revenue enhancement,Billing and Arrear improvement
2	consumer resistance for provision of data	staff attitude should be positive,Geographical information should known,staff trained in public dealing	HR,Social Mobilizaer,AD Revenue,Data entry operator,SDO	1-Jul-17	1-Jul-20	Updated and accurate consumer data
3	inefficient updation of consumer record	centeralized system to monitor Data base	EDP,IT department	1-Jul-17	1-Jul-20	Time saving,electronic billing,accurate analysis of consumer report

Action Plan for Improvement in Bill Distribution and Receipt

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	bill delivery is noy 100%	outsource as a pilot project	third party	1-Jul-17	1-Jul-20	recovery from arrear,increase in no of paying customer
2	bill distributor and recovery man are same/non rotation of staff	job rotation of bill distributor	supervisior,AD Revenue	1-Jul-17	1-Jul-20	Revenue enhancement,increase in no of paying customer

3	limited modes of payment	no of banks enhanced,mobil services,online payment	EDP,Finance	1-Jul-17	1-Jul-20	customer satisfaction,increase in recepits

Action Plan for Improvement in Arrears Recovery and Collection Efficiency

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	difficulty in disconnection	standardize procedure for installation	SDO	1-Jul-17	1-Jul-20	increase recovery,Arrear reduction,increase in disconnection of defaulters
2	criminal resistance	effective law and enforcement	Tehsil dar ,Megistrate	1-Jul-17	1-Jul-20	increase recovery,Arrear reduction
3	unmotivated field staff	perks and fringe benefits	Top Management	1-Jul-17	1-Jul-20	efficiency of collection increase

Action Plan for Additional Sources of Revenue

Sr. No.	Issues	Strategy	Responsibility	Start Date	End Date	KPIs
1	non utilization of land	lease aggrement	FA&R Department	1-Jul-17	1-Jul-20	Maintenace of land,revenue enhancement
2	non utilization of OHR	use as advertizing source for different sectors,lease aggrement with telecommunication sector	FA&R Department,engineering wing	1-Jul-17	1-Jul-20	revenue enhancement
3	low water quality	water bottles sale should be consider,filteration plant should be installed	engineering wing	1-Jul-17	1-Jul-20	revenue enhancement,increase customer trust

Annex 4.56
OJT Implementation Procedure
for O&M of Tube Well and Pump Facility
in Fall 2017 and Spring 2018

Procedure of On the Job Implementation Procedure

Tube Well and Distribution System

1. Tube Well

No.	Items	Check
1	Confirmation of Condition of the Pump house	
	Damage of key, door, roof, wall, window	
2	Confirmation of Condition of Chlorinator	
3	Confirmation of condition of pipe	
	Leakage Damage Rust	
4	Condition of Air Release Valve	
5	Confirmation of depth of pump installed from drawing as build	
6	Checking of ground water level	
7	Checking of Water Pressure of outlet	
8	Checking of Chlorine Content of Pumped up Water	
	Reporting of the check result	

2. Water Pipe Bridge (Water Pipe crossing river)

No.	Items	Check
1	Preparation of the pipeline map (based on GIS map)	
2	Confirmation of diameter, material of the Water Pipe Bridge	
3	An Air release valve is installed or not	
4	Location of the water pipe bridge matches the pipeline map	
5	The water pipe bridge avoids flow of the river or not	
6	Confirmation of conditions of the water pipe bridge	
	Leakage Damage Rust	
	Reporting of the check result	

It is not easy to check the conditions of underground pipeline, but it is easy to check the conditions

of water pipe bridges on the surface.

3. Valves in Supply Area

No.	Items	Check
1	Preparation of the pipeline map (based on GIS map)	
2	Location of the manhole matches the pipeline map	
3	Confirmation of conditions of manhole cover	
4	Confirmation of type of the Valve	
5	Confirmation of conditions of the valve	
	Leakage	
	Damage	
	Open and close operation	
	Reporting of the check result	

Checked by _____ Date _____

Approved by _____ Date _____

Approved by _____ Date _____

Annex 4.57
OJT Implementation Procedure
for O&M of Electrical Equipment in Fall 2018

Approved by: _____

WASA: LDA Division: CD-I Sub Division: CD-I

Prepared by: Syed Mehdi Hassan

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	Construction Office 59-F Gulshan Ravi	CD-I Hamid Lal	CD-I Mehdi Hassan	CD-I Shahbaz Ahmed		Daily Operation Record SOP Check List Device Inspection Sheet	16-12-17			
2.						Daily Operation Record SOP Check List Device Inspection Sheet				

-Remarks- My posting in construction Division its relate to (O&M) so I ~~and~~ no comment own (O&M) Wing when my posting in (O&M) Wing I ensure / implement as per Training Skills Al-Jazari Academy

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.						1. O&M Manual 2. Basic Specifications 3. Daily O&M Record 4. Preventive Maintenance Plan				

-Remarks- do ——— do

WASA: LHR Division: ~~Mustafabad~~ Aziz Bhatti Town Sub Division: Mustafabad

Approved by: _____

Prepared by: Ammar Arshad

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.		Suleman Nisar	Jawad / Zohaib	Imran		Daily Operation Record	March 18-			
						SOP Check List				
						Device Inspection Sheet				
2.						Daily Operation Record				
						SOP Check List				
						Device Inspection Sheet				

-Remarks-

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.		Sulemon	Zohaib	Imran		1. O&M Manual	March 18.			
						2. Basic Specifications				
						3. Daily O&M Record				
						4. Preventive Maintenance Plan				

-Remarks-

WASA: LAHORE Division: EH SHALAMAR XEN Sub Division: BIP

Approved by: MC

Prepared by: Muhammad IRSHAD

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	BHOGIWAL	LATIF SHB	Ammar Anwar	Muhammad IRSHAD	SHAFQAT	Daily Operation Record	15-12-17	Feb 2018		
						SOP Check List	〃	MARCH 2018		
						Device Inspection Sheet	〃	Feb 2018		
2.						Daily Operation Record	〃	Feb 2018		
						SOP Check List	〃	Feb 2018		
						Device Inspection Sheet	〃	March 2018		

-Remarks-

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	BHOGIWAL D/S	LATIF SHB	Ammar Anwar SHB	Muhammad IRSHAD	SHAFQAT	1. O&M Manual	15-12-17	March 2018		
						2. Basic Specifications	〃	March 2018		
						3. Daily O&M Record	〃	March 2018		
						4. Preventive Maintenance Plan	〃	March 2018		

-Remarks-

WASA: LAHORE Division: QCD Sub Division: —

Approved by: _____

Prepared by: Ateeq-ur-Rehman

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	OFFICE Gulshan-e-Ravi	Zeeshan Bilal	Ateeq	Mudassir	Zulfiqar	Daily Operation Record SOP Check List Device Inspection Sheet	16/12/17			
2.						Daily Operation Record SOP Check List Device Inspection Sheet				

-Remarks-

N/A

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.						1. O&M Manual 2. Basic Specifications 3. Daily O&M Record 4. Preventive Maintenance Plan				

-Remarks-

— do —

WASA: GW. Township Division: Shezanwala Bagh Sub Division: _____

Approved by: _____

Prepared by: _____

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	Shezanwala Bagh	M. Aslam	Athar Nadeem			Daily Operation Record ✓	17-12-017	17-02-018		
						SOP Check List				
						Device Inspection Sheet				
2.						Daily Operation Record				
						SOP Check List				
						Device Inspection Sheet				

-Remarks-

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	Shezanwala Bagh	M. Aslam	Athar Nadeem			1. O&M Manual	17-12-017	17-02-018		
						2. Basic Specifications ✓				
						3. Daily O&M Record				
						4. Preventive Maintenance Plan				

-Remarks-

WASA: Faisalabad Division: WATER DIRECTORATE Sub Division: WATER RESOURCES

Approved by: _____

Prepared by: FAROOQ Ahmad

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	JBC	Roohan Javed	Numan NOOR	Farooq Ahmad		Daily Operation Record ✓	18/12/17.			
						SOP Check List				
						Device Inspection Sheet				
2.						Daily Operation Record				
						SOP Check List				
						Device Inspection Sheet				

-Remarks-

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	JBC	Roohan Javed	Numan Noor	Farooq Ahmad		1. O&M Manual	18/12/17.			
						2. Basic Specifications				
						3. Daily O&M Record				
						4. Preventive Maintenance Plan ✓				

-Remarks-

WASA: Faisalabad Division: Water Resources Sub Division: Energy Management

Approved by: _____

Prepared by: Engr. Akbar Laj, DD(Tech)

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	Tubewell No. 20, chiniot	Sayyad ul Allah	Noman	Farooq		Daily Operation Record SOP Check List Device Inspection Sheet	15 th Dec 17			
2.	Tubewell No. 16, JICA, JBC	Rohan Javed	Noman	Farooq		Daily Operation Record SOP Check List Device Inspection Sheet	15th Dec 17			

-Remarks- The Energy Management, Water Resources directorate is headed by me. So, I would like to implement the contents of activity as mentioned above under my capacity. For it a team is required to be established at departmental level. So, Here are several challenges But to achieve the targets, every available resource will be incoporated.

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	Cholcera D/Worle	Adnan Gul				1. O&M Manual 2. Basic Specifications 3. Daily O&M Record 4. Preventive Maintenance Plan	15th Dec 2017			

-Remarks- The Generators are mostly present at the disposal stations where there is a variable load. ~~So, Mr. Ad~~ And For the management of disposal station a separate Directorate of Waste water Management is working. Mr Adnan Gul may be requested to introduce the relevant required facility, which has to be implemented, wrt the action plan submitted.

Cantt Area

EC-IP-01

WASA: Rawalpindi Division: ~~East Zone~~ West Sub Division: Khayaban-e-Sirsyed

Approved by: _____

Prepared by: _____

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	Khayaban-e-Sirsyed	Asim Nazir	Asim Nazir	Zohaib Aftab	—	Daily Operation Record	15-12-17	Feb 2018		
						SOP Check List		Mar 2018		
						Device Inspection Sheet		May 2018		
2.						Daily Operation Record		Feb 2018		
						SOP Check List		Feb 2018		
						Device Inspection Sheet		May 2018		
-Remarks-										

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	Khayaban-e-Sirsyed	Asim Nazir	Asim Nazir	Zohaib Aftab		1. O&M Manual	15-12-17	Mar 2018		
						2. Basic Specifications		Feb 2018		
						3. Daily O&M Record		Feb 2018		
						4. Preventive Maintenance Plan		Mar 2018		
-Remarks-										

WASA: MULTAN Division: SEWERAGE North Sub Division: Eidgah.

Approved by: _____

Prepared by: Zia-ur-Rehman.

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.						Daily Operation Record				
						SOP Check List				
						Device Inspection Sheet				
2.						Daily Operation Record				
						SOP Check List				
						Device Inspection Sheet				

-Remarks-

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.						1. O&M Manual				
						2. Basic Specifications				
						3. Daily O&M Record				
						4. Preventive Maintenance Plan				

-Remarks- As I am relating to Sewerage Division. No electric Panel and Genrator is under my Supervision.

WASA: Multan Division: Central Sub Division: Qasimpur

Approved by: _____

Prepared by: _____

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.						Daily Operation Record				
						SOP Check List				
						Device Inspection Sheet				
2.						Daily Operation Record				
						SOP Check List				
						Device Inspection Sheet				

-Remarks-

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.						1. O&M Manual				
						2. Basic Specifications				
						3. Daily O&M Record				
						4. Preventive Maintenance Plan				

-Remarks-

I am Relating to Sewerage Division.

WASA: Quetta Division: Quetta Sub Division: Satellite Town

Approved by: C.E/MD

Prepared by: SDO

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	Satellite Town			Khalid	Shad Meer	Daily Operation Record	1-01-18	6-01-18		
						SOP Check List				
						Device Inspection Sheet				
2.						Daily Operation Record	20-1-18	25-1-18		
						SOP Check List				
						Device Inspection Sheet				

-Remarks-

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	Satellite Town			Khalid	Ibrahim	1. O&M Manual	Feb.18	28-2-18		
						2. Basic Specifications				
						3. Daily O&M Record				
						4. Preventive Maintenance Plan				

-Remarks-

EC-IP-01

Yasir Ali
Dy WASA

WASA: Quetta Chiltan Division: Sariab Sub Division: Sariab

Approved by: _____

Prepared by: _____

OJT Implementation Plan for Record Keeping, SOP & Device Inspection Activity of Electrical Panel

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	Sariab	Tariq Mehmood	Yasir Ali	Khalid Bugti	M. Alias	Daily Operation Record	01-1-18		01-1-18	
						SOP Check List				
						Device Inspection Sheet				3-2-18
2.						Daily Operation Record	01-4-18		01-1-18	
						SOP Check List				
						Device Inspection Sheet				3-2-18

-Remarks-

OJT Implementation Procedure for O&M Manual, Record Keeping and Preventive Maintenance Activity of Diesel Generator

Administrative Information						Contents of Activity	Planning Date	Completed	Planning Date	Completed
Site No.	Site Name	Name of the Persons in Charge: XEN	SDO	Sub Engineer	Operator					
1.	Ayoub Sachi	Tariq Mehmood	Yasir Ali	Kamran Khan	Shehab	1. O&M Manual	3-2-18		3-2-18	3-2-
						2. Basic Specifications				
						3. Daily O&M Record				
						4. Preventive Maintenance Plan		5-3-18		5-3-18

-Remarks-

Annex 4.58
Action Plan for O&M of Tube Well and Pump Facility in Spring 2018

Operational and Repair Action Plan

WASA Rawalpindi

Mr. Asim Nazir Deputy Director

Sr. No.	Issue	Cause	Mitigation Measure
1	Shortage of water	Ground water Depletion population	New Tube well Surface water
2	Low Pressure	Shortage of water/OHR	Provision of OHR New machinery
3	Biological Contamination	Mixing of water with sewerage/garbage	Chlorination
4	Contamination in distribution	Old rusty network and mixing issue	F/plants
5	Leakages	Old networks/incidents	Repair/replace of lines
6	Wastage of water	Lack of awareness	Public awareness
7	Political/Social Influence	Political system	Better management
8	Line breakage	Old injected lines	Replacement of old lines
9	Ground Treatment and electricity issue	Surface water contaminated, load shedding	Treatment plant

WASA Lahore

Mr Tahir Rehman

Sr. No.	Issue	Cause	Mitigation Measure

1	Leakage of water supply lines	Contamination of clean drinking line	Repair of lines
2	Low pressure of water supply network		New reservoir/ new T/W is operational
3	Connected water supply line to sewerage line	Contamination of clean drinking water	New water supply line opposite site
4	Leakage of poor valve, jointing material	Poor water drinking	Replacement of good quality of valve jointing material
5	Contamination of source point distribution line		Chlorination
6	Laying of old cast iron pipe line	Cause of contamination	New water supply line for good production

WSSC Mardan

Laltab Tube well In charge

Major Issues

1. Operate of sewerage line to water supply line
2. No Chlorination

WSSC Kohat

Abdul Rehman Field Super Visor WSSC Kohat

Issue

1. Pipe leaking
2. Old pipe

WASA Rawalpindi

Aamir Hussain Shah Sub Engineer

Sr. No.	**Issue**	**Cause**	**Mitigation Measure**

1	Shortage of water	Ground water depletion, population	New TW Surface water
2	Low pressure	Shortage of water	Provision of OHR New machinery
3	Biological contamination	Mixing with sewerage	Chlorination
4	Leakage	Old rusting	Repair of pipe Change the pipe

Annex 4.59
Action Plan for Leakage Detection in Spring 2018

Leakage Detection and Repair Action Plan

WASA Lahore (Group 1)

1. **Preparation**

We shall establish a leak detection cell comprising of XEN, SDO, 2 SE's, 1 pipe fitter, 3 asstt. Pipe fitters. We shall use updated water distribution on line maps. After deciding the instruments to be used we shall procure the tools.

2. **Basic Survey**

We shall divide the sub-division into 5 blocks and utilize the updated pipe lay maps. The areas for which we have no maps, we shall carry out the surveys using various equipments (Metal Pipe Locator, Non Metal pipe Locator, Acoustic Leak Detector etc.) We shall analyze the pipe material, age, quality and repairing done.

3. **Plan**

After basic surveys and selected methodology, we shall try to control 90% of the losses within 5 years.

4. **Action**

A team leading by SE will carry out the leak detection surveys using the above mentioned tools. After detection, leakage points will be repaired, over aged & damaged lines replaced with new ones. Proper metering should be done at both production and consumer end to observe the input and output.

5. **Evaluation**

After 5 years, the losses will be compared with the current situation and it will be judged how much we have overcome the issue & how much the system has become efficient.

1. Riaz Elahi DD (P & E)
2. Husnain Ahmed ADH
3. Farhan Abbas SE
4. M Usman SE

WASA Lahore (Group 2)

1. Sub engineer, pipe fitter, A.P.F is team along with map at site Allama Iqbal Road, the equipments are used, Acoustic leak detector.
2. Will ensure the tube wells are in running position, and already laid, AC pipe age is approximately 5 years.
3. Set the target for Five year plan, we will adopt method as per site condition.

4. Visit the site and observed the leakage causes, the pipe is out of order, and leakage volume is low. If leakage water on the surface then get repaired. If leakage is underground, then we detect the leakage with equipment, as site condition.
5. We survey the site, the mostly site is leakage, and measure the leakage with equipment, related the leakage detection, and we repair the leakage pipe, and we controls the non-revenue water.

1. Adnan Ahmed (J.C.E, D.C 2, CD VI)
2. Muhammad Kamran Sub Engineer (O & M)
3. Muhammad Zeeshan Sub Engineer (DC-1)
4. Mohsin Ali SDO (O & M)

WASA Multan & WSSC Peshawar

1. **Preparation**
    i. Complaint cell (Supervisor + Plumber + 3 Helpers)
    ii. Collect information from public and our senior staff.
    iii. Provision tolls to concern staff (leakage removing material Rubber, Kasi, Gainti (hammer), cutter etc.}
2. **Basic Survey**
    i. Information about water supplied- Tube wells in concern sub division, pressure of T. wells and discharge also.
    ii. Then division of city and sub division into zones.
    iii. Collect information about the pipe material, like what type of i.e. HDPE, AC, GI, PVC, CI and how old is/ information about age.
    iv. Collect information about works done on this line before.
3. **Plan**
    i. Set the Plan/Target repairs of Leak points that how can we resolve/repair in a month/week/year.
    ii. Plan about for a year to resolve or repair the leakages.
    iii. Then we decide which method will be used for detection of leakages.
4. **Action/Implementation**
    i. Survey about leakages in different zones/sub divisions by using leak detection equipment/ Acoustic Leakage detector/ Non Metal pipe locator.
    ii. Collect information about causes of leakages / that how leakages occur – what the reason is.
    iii. Know about leakes volume/ calculate about it. That the leakage size is small or large.
    iv. Quick repair (in surface pipe generally in GI pipes in which there is no need of excavation.) and already detect.

v. After quick repairs we systematically the underground leakages/ mean first we detect leakages by using scientific/systematic instruments i.e. metal locator, nonmetal pipe locator, acoustic leak detector etc.

vi. Now to know about the counter number of repaired leakage then we calculate the water losses/saved water to and know how we can control leakage in future.

5. Evaluation

i. Now we collect the data about the results of repaired leakages that what is result or we achieved and control on water losses.

ii. Now we compare the plan with the action/ that we have planned or the action is according to the plan or not.

1. Abdul Haleem Sub engineer WSSP
2. Waheed Gul Sub engineer WSSP
3. Abdul Qadir Sub engineer WASA Multan
4. Muhammad Mustafa SSE WASA Multan
5. Shehzad Malik M.C APE BWP

WASA Rawalpindi

1. Leakage detection cell will be consisting of 2 supervisor, 2 fitters and 6 helpers. Supervisor will provide material and lead the team.
2. Pipe lines will be traced by GIS maps.
3. With the help of Metal pipe locator and nonmetal pipe locator we will locate pipes.
4. Leak will be found by acoustic leak detector.

Basic Survey

1. We will find that how many tube wells are in sub division and their flow will be measured by Ultrasonic flow meter.
2. We will also note the supply of water from the dam in our area. And will know total flow of tube well and dam in this manner.
3. We will divide the sub division into two blocks.
4. Age of pipes will also be determined.
5. Repair of pipe line will be done by the proper material as per leakage type using wooden cock, Gebault joint, flange clamp etc.

Plan

1. We have to eradicate the leak issue in our sub division.
2. We plan to do that in two years.

3. A target will be given to leakage teams in both blocks A &B to minimize the leaks in each sub area by deputing team comprising one supervisor, one fitter and 3 helpers.

Action/Implementation

1. Supervisor will be responsible to find the leak.
2. Reasons for leakages will be found and future planning will be done as per the causes of leakages (that either it is due to heavy traffic or digging activity or any other).
3. Ultrasonic flowmeter will be used to find the lost water.
4. Small leaks will be repaired quickly using wooden cock while large leaks will be repaired by replacing the pipe lines using gebault joint.

Evaluation

To bring our NRW % from 40 to 20.

Muhammad Irfan Tube well Inspector WASA Rawalpindi

Owais Liaqat Sub engineer WASA Rawalpindi

Annex 4.60
Action Plan for O&M of Sewer and Storm Water Drainage in Spring 2018

Action Plan for Desilting of sewer lines & manholes/complaint readdressal (03-MONTHS)
(from March 01, 2018 to May 31, 2018)

Period (Date)	Manhole Trunk (No.)	Desilted Lateral (No.)	Length Desilted by winch machine (ft.)	Length Desilted manually (ft.)	MH repair & replaced MH cover (No.)	Tracing of Buried MH (No.)	Expected Complaint to be received (No.)	Attended (No.)	Pending (No.)	O & M of Machinery	How to check	Checked by SDO
1-10/03/2018	10	40	1800′	3900′	3	01	200	190	10	At work shop for repair & maintenance	Supervisor and sub-engineer will be sent on site to check on daily basis by performing certain tests to check whether blockages are removed and de-silting is done in a proper manner	SDO will check the performance after every 15 days.
11-20/03/2018	8	35	1400′	3400′	5	–	215	210	05			
21-31/03/2018	9	45	1600′	4400′	6	01	190	188	02	31/03/18		
01-10/04/2018	11	35	2000′	3400′	5	02	172	165	07	〃		
11-20/04/2018	8	30	1400′	2900′	2	–	166	163	03	〃		
21-30/04/2018	10	40	1800′	3900′	10	01	153	153	–	30/04/18		
01-10/05/2018	9	35	1600	3400′	5	00	130	124	06	〃		
11-20/05/2018	8	36	1400′	3500′	6	01	126	124	02	〃		
21-31/05/2018	9	40	1600′	3900′	8	02	102	102	–	31/05/18		

Total length of lateral sewer : 10 km (328 M.H)
" " Trunk sewer : 5 km (82# M.H)

Labor/Staff present for working : 30 No. (6 teams, 5#)
Persons to be deputed for PPE's checking: 05 No.
Desilting of M.H and sewer lines : 3 No. teams deputed
Daily complaints readdressal : 02 No.
Repairing/plaining of M.H covers : 01 No.
and Traning the burried manholes

PPE's to be provided + tools ⇒ Goggles, gloves, helmet, safety shoes, non-absorbant dresses, safety belts, gas detectors. measuring tape, flag, traffic cones, warning taps, safety jackets, first aid box, presence of rescue team at site in case of any emergency, air blower, oxygen kit, face mask, ladder, bamboo stick winch machine + jetting + suction machine + dumping trucks

⇒ Person deputed for PPE's checking will be sent on site at any time to check safe entry of sewerman into the M.H, whether he has followed all instructions to obey safety rules or not.

⇒ Training of labor personals to obey safety rules and how to wear PPE's will be conducted at the start of work.

Team Members:
Mudassir Shaukat
M. Qasim
Adil Ayzal
Hafiza Fatima Zahra

ACTION PLAN (July 2018 To June 2019)
(SEWERAGE) & (DISPOSAL)

Sr No	What to Do	How To Do	When To Do	Who to Do		Do with what		CHECK DONE	WHO TO CHECK
	(S/Dine O&M WORK	(SOP Ref.	Frequency	Carried out by				How to CHECK	To BE CHECKED BY
				Class of work	Worker	Materials	Tool/Equipment		
1.)	Purchase of PPE'S, M.H Covers, 5 Dewatring Sets, 1 Jetting & Sucker, Bambos rods, tools, Equipments,	During the month of july. When Budget is announced.	July 2018	Executive Engineer.		10.20 Million fund Required		By Supervisior	Executive Engineer
2.)	Replacement of Damaged M.H Covers	Daily Survey report of Staff.	Immediate, when found missing or Broken, Complaint cell will Highlight	Sanitary Staff		PPES, PicAxe + Covers		Supervisor	S/Divisional office
3.)	Blockages of Sewer lines 02-Nos (500 Rft + 500 Rft) 24" dia	Manual + Machines Mechanical	15-July to 22-July	Sanitary Staff with ^		PPEs + Gas Monitor will be used also Blower	Jetting Sucker + Bamboo Rods	Supervisor + Sub Engr Checked by Lamp Test	S.D.O SS
4.)	Desilting of Screening Chamber of D/S	Manual + Mechanical Method also Machines	Daily Basis Routine	Sanitary worker + Excavator Disaplined Desilting Machines		Safety Belt Gloves Shoes Helmet Gas monitor	Bucket Mabri Pic Axe	Supervisor Sub Engr	(S.D.O) (XEN O/M)
5.)	Desilting of wet well	Mechanical Machines manual labour.	July to Jan twice a Annual	Sanitary Staff Excavator with clamp Bucket (Disaplined)		Mask, Cones Gas Monitor Helmet Gloves		Supervisor + Sub Engr	S.D.O (XEN O/M)

					Gloves, Helmet.			
6)	Repairing of Greasing, oiling + Repair	Greasing, oiling daily basis, Repairing of Machinery when required.	On Routine Checking Daily Basis	Mechincal Forman & (O & M) Staff	Greasing Canc, Grease, oil can	Mechical Supridentt, S	Sub Engineer, S.D.O.	
7)	Dewatring, attach-ment with wet well during monsoon	By Installing Dewatring set with wet well	On Monsoon (2018 July to 2018 Aug)	Saintory Staff	Dewatring Set Suction & Delivery Pipe, I.	Supervisor, Disposal Opretor	Sub Engineer S.D.O	

M. Javaid Akhter
Asst Engineer

M. Ali Gulraiz
Sub-Engineer

Nabeel Ahmed
Sub-Engineer

Abdul Rehman
Sub Engineer

DE-SILTING OF DRAIN

Sr No	O&M Task	SOP	Frequency	Class of work	Worker	Material	Tools	Check	
	1) Desilting of 10 KM Shalimar Escape channel located in AWT WASA LHR. → Section = 15'×8' → Total sludge volume = 27860 m³ → e	1) Mechanical Excavation 2) Sludge volume calculation 3) Machinery availability	4 month desilting plan 10 h/day	Desilting	1) Excavator operator 2) Truck driver 3) Helper 4) Sanitary worker	1) Excavator 2) Dumpers 3 3) PPEs 4. Ranging Rod. 5. Steel tap. 6. Distance meter	– Safety/Traffic rules cones – Warning Tape – Flag lamp – Helmet – Gloves – Safety shoes – jackets 4 – Measuring Tape 5 – Ranging Rod	1) Assistant supervisor 2) Supervisor 3) Sub-engineer. 4. ~~A.E~~	Subdivisional officer
1.	Dismantling of 10 kms Shalimar Escop channel Located in AWT WASA LaHore. Section of ~~Drain~~ chanel - 15×8' Total Depth of waste water = 4' Total depth of Sludge = 2' Total volume - 27860 m³	x Initial Survey 2. cheeking chanel After Embankment or Sufficient Place For Mechinery 3. Dumping Place. 4. Dumping Route.	→ 4 months Program → Dissilting Program. → 10/~~Day~~ Hours each day 25 minutes For Each Dumper. 24 Packets Duping in Day. 3 Dumper 1 Excavator	Desilting	Excavator 2 Truck driver 6 Flagel man 2 Site Supervisor 1	–	–	Zafar Ullah Ashcar Ikram Syed Zulqarnain Mohd. Zihaib	Assistant Manager Assistant Manager Assistant Engineer SDO

ACTION PLAN

Participants

1. Zafar Ullah
2. Askar Khan
3. Syed Zulqarnain
4. Muhammad Zuheib

Execution of Action Plan:

During the Execution the following point will be kept in mind.

1. Traffic Routing & HSEs Provision.
   - Place the Safety Cones to barricade the Work Zone.
   - Place the Warning Tape.
   - Assign duty to helpers for traffic routing.
   - Provision of PPEs to the Staff.
   - Excavator Operator should be educate regarding Working activity.
   - Instruct the Supervising Staff for Implementation of HSEs.
   - Availability of First Aid kit.
2. Resources Availability:
   - To carried out the activity in Smooth Manner. the following resources
     - Excavator 01 Nos.
     - Dump trucks 05 Nos.
3. Execution of Work:

   During the Execution 5Nos of dump trucks and 01 Nos. Excavator will work continuously for 10hrs/day.

Desilting of sewerage system (sewer lines and manholes) of Nisar Town

Catchment Area = 10 Km^2

Total Length of sewer lines = 4 KM 9" Dia = 1800 m, 12" " = 1200 m, 18 " = 1000 m

Total Number of Man holes 267 (sqe 26)

S No	What to do O&M Task	Total No/Length	Man power			Machinary						Tool equiment		PPEs		Supervisory Staff		Days
			Sewer Supervisor	Sewerman	HSE Rep	Jetter	Sucker	Winch Machine	Tractor trolley	Loader								
1	Desilting of M. Holes	267 Nos	1	5	1							Wheel barrow	2 Nos	Gas monitor	1	Sub Engineer	1	39
												GI bucket	2 Nos	Gloves	10 pairs	SDO	1	
												Manila rope 20	2 Nos	Mask	20 Nos	XEN	1	
														Gas mask	2 No			
			Driver		3									RS Shoes	12 Nos			
			operator		3							hand shovel	1	Waders	5 No			
			helper		3							Pick	1	Goggles	2 Nos			
														Plugs	6 Nos			
														~~Air sucker~~ blower	2 Nos			
2	Desilting of Sewer lines	4000 m	Sewer Supervisor	Sewerman	HSE Rep							Wheel barrow	2	Safety harness with rope	2 Nos			90
			1	5	1	1	1	1	1	1		GI bucket	1					
												~~Manila~~ rope						
												hand shovel	1					

Irfan ul Haq
M. Ahsan Adnan
Farhan Abbas
S/E M. Ahsan

M. Fiaz. WASA Multan

Sr No	What To Do	How To Do	When To Do	Who To Do		Do with what		Check Done	Who To check
				Carried out By		materials	Tools Equip	How To Check	To be Checked By
	Define (ocem) Task	follow SoP Ref #	Frevency	class of Worker	Worker				
1.	Desilting of Sewer 18"Q = 100 " 24"Q = 80 " 30"Q = 60 280 Total No. of manholes = 280.	First of all we have to check any presence of any of the hazrdous Gases present with the help of Gas monitor. If Gas is present then by the help of Sucker machine or Gas blower we have to remove Gases. once Gases are removed then we can lower our Sewerman Staff with Constant Gas monitoring. Sewerman going doing in manhole must wear following PPE's. i) Helmet. ii) Safety harness. iii) Gogsles. iv) Life Line. v) Long Shoes. vi) Gloves. vii) full body Cover up. We will also Cordon off extend also i.e road to avoid any incidents with the help of cones, warning tapes and flagsmets.	Depends upon flow and volume of Sewage flowing through line Usually in lahore it may take 2-3 times for proper and fully cleaning of Silt Gradually decreasing dia wise .i.e 30" first. 24" 2nd 18" 3rd.	Sanitation Worker Supervisor Time frame required for Task to be Completed 20 workers will be required to Complete the task. 30"Q manholes will be desilted every night 5 No.s 24"Q " " every night = 5 No.s 18"Q " " " " = 6 No.s		Materials required for desilting are as follow. i) Rope ii) Bucket iii) Torches iv) Pickaxe. v) Spade. Tools required are as follow. i) Gas monitor. ii) Sucker or Dewatering engine if required iii) Helmets. iv) Harness v) Life Line. vi) long shoes. vii) Gogsles. viii) Gloves.		We will Check by Sludge Calculation. After checking we found that 4' depth Silt is present in 30"Q. line, 3' depth Silt in 24"Q and 2' depth in 18"Q line Calculations are as following. 30"Q = $60 \times \pi r^2 \times 4 \times 2$ = 9420 cft. 24"Q = $80 \times \pi r^2 \times 3 \times 2$ = 6028 ft^3. 18"Q = $140 \times \pi r^2 \times 2 \times 2$ = 2033 ft^3. Total = 22481 ft^3.	Supervisor and Sub-Engineer incharge will time to time check the working of desilting.
								XEN WASA Lahore (i). Sub Engineer WASA Lahore (ii). Subengineer WASA Lahore (iii)	Mr. Hafiz Ghufran Sadiq Shb Mr. Hafiz Naif Khalid Shb. Mr. Tauseef Zahid Shb.

Annex 4.61
Action Plan for O&M of Electrical Equipment in Spring 2018

ALJAZARI ACADEMY

Action Plan

Name of Participant: Muhammad Waseem Nasir Date of Training: 30-03-18

Name of Organization: WASA Lahore

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

In most of our Installation our available staff is Non-Technical. Therefore they cant able deal in Emergency operation/situation. Moreover they work by traditional systems, Never bother to carry out operation beyond routines. Reason is that they are not guided/Trained or such data is not available at such vicinities. So After this Training I would like to trained them by my own, how to Lookafter the Electric system/Panel, what are the Precaution, how they ensure the safety of themselves and system.

~~Generator~~

I will motivate them to think beyond their routine work/job, that how they can useful for their organization.

From my side I will Provide Record Keeping Performa at site. So that anybody can Consult it and get Knowledge/information that how much Time this was breakdowned and what components were repaired/replaced

➡ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

Daily operation records of Panel & Generators are available on each Installation, but operator cannot familiar with them or they are outdated. I will improve them as much as possible.

Preventive maintenence is not in practice in most of our Installation, so i will try to implement such practice within available resources.

such practices are carrying out in most of the Installion. but those are not streamlined, so i streamlined such practices to make it more effective.

2. Please share the problems or issues you are facing with in your sites and organizations

⇒ Staff is non Technical or they never have such Training so that they work efficiently.
⇒ Staff is not motivated.
⇒ They have Political affiliation, so they never bother to take interest
⇒ There is no system to encourage and motivation from high side.
⇒ Public relevent Complain are in huge amount/quantity, so to take time for improvement of such system is much difficult.

3.Other Comments or Notes:

⇒ Shortage of staff is on important factor, due to that staff is demotivated by working Load/Pressure.
⇒ Safety equipment are in Less quantity or not a Commen Practice. So staff is hesitate to work in abnormal Condition.
⇒ Financial constraints are important also, because improvement of a system within available resources is Possible at some Extent, but most of improvement requires Financial aids.

ALJAZARI ACADEMY

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Action Plan

Name of Participant: Riaz Elahi Date of Training: 30/3/14

Name of Organization: WASA LAHORE

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

① Check the panel part ✓
② All the panel post in order. ✓
③ Check the wire loosing ✓
④ Check the cleanness part ✓
⑤ Check the wire Connection. ✓

Generator

① Check the Battery water level. ✓
② Check the Cooling water ✓
③ Check the leakage of oil. ✓
④ Check the cleanness of genrator. ✓
⑤ Check the wire Connection. ✓

➡ *Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".*

2. Please share the problems or issues you are facing with in your sites and organizations

① Lack of Training.

3.Other Comments or Notes:

ALJAZARI ACADEMY

(16)

Action Plan

Name of Participant: ABEEZ IRFAN Date of Training: 30/3/18

Name of Organization: WASA LHR.

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

I will make sure that there are no holes or intrusion path in panels, proper insulations, no bypass wires, CTs are working and showing current values, suitably for Voltmeters, and, Panel is correctly labeled. No loose wires.

Generator

I will make sure that it's filter are always replaced on time, I will make a chart to update the replacements, Oil filters replacements, air filter replacements, proper education for the operator or it's use. Battery water level should be checked on daily basis.

➨ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

2. Please share the problems or issues you are facing with in your sites and organizations

- Labour has lack of relevant knowledge.
- Labour doesn't know about the preventive measures.
- Lack of precautionary equipments.
- Diesel from source petrol pumps are not pure.
- Lack of Training.

3.Other Comments or Notes:

EC-AP-01

ALJAZARI ACADEMY

Action Plan

Name of Participant: Mamoona Date of Training: 30/3/18

Name of Organization: WASA LAHORE.

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel Electrical Panel Activity:

* Visual inspection Record Performa can be provided about Electrical panel. (Not practiced by Energy audit team).
* Provide (O&M) manual / user Manual of each energy audit equipment to Sub-engineers
* Give training of how to use each equipment as well as about safety measure Necessary to keep in mind at site.
* Provide proper Safety wear to all field Staff
* give instructions to dont bypass the relay equipment. avoid.

Generator * preventive maintinace plan can be made through Data.

* Give instructions that if generator is available on site then (energy audit) Perform check Visually and well as perform some tests to check the condition of Generator as well as battery.
* Report of generator condition to concerned person.

➡ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

→ Perform device inspection Activity on sites and if their is going wrong report the concerned person to rectify fault

2. Please share the problems or issues you are facing with in your sites and organizations-

* No proper maintenance/awareness of T/W operator about safety.
* insufficient Resources / No proper check and balance of things:-
* lack of staff
* Motivation/Appreciation is low

3.Other Comments or Notes:

→ Preventive Maintinance plan can be made and followed to avoid big financial and equipment lose.

→ Provide excel sheet to whole wasa tubewell operators to maintaine daily operation Record.

ALJAZARI ACADEMY

(18)

Action Plan

Name of Participant: AAMIR TUFAIL. Date of Training: 30-03-2018.

Name of Organization: WASA LAHORE.

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

ABout Repair & maintenance of Electrical equipment Like Electric Pannal which is most Common & important thing in WASA to operate Electic Devices or motors. In this training I have Learnt so many things about Pannal like testing Replacement of Parts in Panal. how to save our machines. with the help of Pannal & Its Control system. In Preiorty basis I will emplement & share this Knowledge with my Electrition & operators & officers. & will maintain installation under my Responsibility & others.

Generator

Generator is main & Common machine which is used. to operate Electric equipment like Tubewell & Disposals motors Commonly in WASA. It is alternative source of WAPDA to operate our machine our motor. so that Its maintenace is must my Responsibilty at time. so that Generators work efficiently. which thing I Learnt to maintain the generator nobilail filters clean Air filter. Battery charging..... Every. check & balance I will implement my all instalations in futura.

➡ *Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".*

2. Please share the problems or issues you are facing with in your sites and organizations

1- main thing or problem is this that when we want to Apply. 5-S or continues to work for Record keeping of maintaing machines schedules. Department ~~or will~~ transfor us any other Place. due to unnecessory reasons so that we cant apply. the knowledge of to instalations for Good name of WASA.

2- Approval Problems from high UPS.

3- for Non Availability of funds.

4- tx

3.Other Comments or Notes:

Training should must be I for Everyd Electrition, sub Engineer SDO, XEN; on Ist condition to do Work in WASA to maintain. our instalations like motor. Pannals Pump. Generats or any other. Equipment use in WASA for facilitate the Public. & to Save from financial losses due to untrained operators & high UPS training is most important for all officials for Good name of Department. & then Public facility.

inhanced. operators.

ALJAZARI ACADEMY

(14)

Action Plan

Name of Participant: Mario Khalid Date of Training: 3rd March 2018

Name of Organization: LUMSA LHR

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

SITE FUTURE TREATMENT PLANTS AT BABU SABU, MEHMOOD BOOTI, SHADBAGH & SHADRA

- Make a list of daily, weekly, yearly tasks for maintenance of machines present at the plant. (MAINTAIN A LOG SHEET)
- Provide flow charts to operators for different machines/devices present at sites.

Generator

- Ensure safety of workers at site by providing them safety kits (like face masks)
- weekly inspection of site to ensure proper working efficient
- Ensure presence of manuals of devices at site & make its summary
- Make sure that ~~emergency~~ emergency contact numbers are available to every one in case of any emergency.

➡ *Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".*

2. Please share the problems or issues you are facing with in your sites and organizations

~~• The process of~~

• The problems with our organization are:

① Lengthy steps to achieve/setup anything. (It might take years for one thing to complete).

② There are no deadlines for anything (dates can be altered as required).

③ No proper log books maintained.

④ No one takes responsibility for any action, instead blame their mistakes on others.

3. Other Comments or Notes:

• All the documents are not properly kept or maintained. It is quite difficult to find a particular case file and its history.

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ALJAZARI ACADEMY

Action Plan

Name of Participant: FATIMA EIMAN Date of Training: 30th March-2018

Name of Organization: (Hydrology Directorate) IR/ASA LHR

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

Previously I have no idea or Know How about the Electrical panel and its working. Through this training I gain Basic Knowlegde about the components and assembly of electric panel and usage/working of different equipments like clampmeter and power analyzer. I have learnt about the Energy audit and its importance for organization. Through Record Keeping and maintainance, I learnt about its importance on the long run.

Generator

I have never seen the components and working mechanism of generator before. Through this training, I gain the Knowlege about Generator in detail and it provided me the opportunity of hand-on working on Generator at site. Practical demonstration of everything is a huge source of learning here. Record keeping and regular maintainance of generator are some basic thing I learnt through this training.

➡ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

2. Please share the problems or issues you are facing with in your sites and organizations

→ Record Keeping is not proper.
→ Data is in very random form. There is not implementation of "5S" concept
→ No Proper Care is taken related to health and safety at working Site.

3. Other Comments or Notes:

I try my Best to Trafer the knowledge I gain through this Training, to my coordinates and Tubewell's observers/operators so that when they come across or go on Site, They implement all the necessary Pratices there for the best Interest of Organization and Workers. I will ensure the practice of "5S" and Record Keeping at my office and Keep check and balance on the record that Observers bring from Tubewells.

ALJAZARI ACADEMY

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Action Plan

Name of Participant: TARIQ JAMIL Date of Training: 30/3/18

Name of Organization: WASA LHR.

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

① Method for trouble shooting the electrical Faults.
② Pasting standard operating Procedures for operators.
③ Keeping record of components datasheets.
④ Installation of power factor correction devices for T/wells and disposals motors
⑤ Installation of fire extinguisher at Electrical installations.

Generator

① Pasting Standard operating Procedure for operators
② Trouble shooting the electrical/mechanical Faults methods using O&M manual & Templates
③ maintence of meckanical Parts like Radiator, Battery etc Periodically.
④ Installation of sheds over Generators to Prevent from corrosion due to Rain.

➡ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

2. Please share the problems or issues you are facing with in your sites and organizations

(1) NO Allocation of funds easily for buying Tools.
(2) Lack of trained workers/ Unskilled staff
(3) Shortage of staff

3.Other Comments or Notes:

(1) Will try my best to train staff (S/E & Operators) for what I learnt during training.

ALJAZARI ACADEMY

Action Plan

Name of Participant: Ammar Arshad Date of Training: 22-3-2018

Name of Organization: WASA, Lahore

I. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

1) During the energy audit of Tubewells, timer of under voltage / over voltage if not set right will be adjusted as per the standards.

2) If any of the protection devices are bypassed (observed during energy audit), proper wiring should be done and faulty equipment will be replaced.

3) PF improvement panels (Installation of capacitors).

Generator

1) Cleaning of Air filter regularly.

2) Ensuring that the fuel level is not minimal, to avoid air locking of the generator.

➡ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

2. Please share the problems or issues you are facing with in your sites and organizations

1) Proper coordination from the operational SDOs for providing the equipment to be replaced if anything is by-passed.

2) Approval from the higher authorities by the installation of PF improvement panels.

3.Other Comments or Notes:

ALJAZARI ACADEMY

16

Action Plan

Name of Participant: Samad Waheed Date of Training: 27/3/18

Name of Organization: WASA Gujranwala

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

→ Complete testing & commissioning of MCC.
→ Insulation testing of panels & motor.
→ Earth testing and using of apparatus.
→ Usage of power analyzer.
→ I can test the panel and motor of new installation.
→ Complete inspection of electrical installations with the help of apparatus.

Generator

→ Maintenace of generator parts are easy after training.
→ Complete knowledge of all the parts like battery, alternator, engine, radiator & gauges.
→ Record keeping for the maintenance of generator and usage of manual for all types of maintenance.

➨ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

2. Please share the problems or issues you are facing with in your sites and organizations

→ Lack of staff for O & M.
→ Apparatus for the testing/ inspection of the electrical installation.
→ Access for the preventive maintenance.
→ Reporting of operators in problem or in shutdown.
→ Lack of record keeping

3.Other Comments or Notes:

→ Energy Audit is very knowledgeable process in reduction of bills
→ Description of formulae may be mentioned/ teached for energy audit.

ALJAZARI ACADEMY

19

Action Plan

Name of Participant: Ahmad Gill Date of Training: 30-03-2018

Name of Organization: WASA Faisalabad-

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

* Inspection of control Panel (internal and External Side)
  - MCU Components check by using continuity / Insulation Meter
  - If any component not in working → replace it
  - Check Eq connections
  - Cleaning of control Panels
  - Training of Subordinates (Electrician, Mechanic, helper)
  - If any fault occurs ~~[illegible]~~ Resolved it by using P.P.E any Electrical Motors.
  - MCU + Cables + Earthing check • Record keeping (check lists) – Daily, Monthly, Weekly, Yearly

Generator

- Cleaning of Body
- Oil check by Gauge
- Coolant check
- Fan Belt check
- Battery Electrolite check
- Separator + Air filter cleaning
- Battery charging check
- Gen. Control Panel check + ~~Equipments~~ Components of Control Panel
- Gen position check
- Record keeping (daily, weekly, monthly, yearly check lists)
- Make Maintenance Plan.

➡ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

2. Please share the problems or issues you are facing with in your sites and organizations

- Unavailability of Equipments
- Lake of staff (Electricians, operators, Drivers)
- Lake of Resources
- Transfers
- Unavailability of budget
- Political Interference
-

3.Other Comments or Notes:

The Major things that I got through this Training is knowledge

- 5S
- H.S.E / PPE

My Responsibilites in WASA Faisalabad is Store incharge and Vehicles incharge.

My duty maintain Store material by Tagging the Names of material in seprate areas.

- Also generate vehicle record check lists by using the 5S.
- Also I got knowledge about PPE

ALJAZARI ACADEMY

Action Plan

Name of Participant: Farooq Ahmad Date of Training: 26/3/2018 To 31/3/2018

Name of Organization: WASA Faisalabad

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

* I labling the electric panels, switches, etc.
* I will improve record keeping of electric panels and motors.
* I also visual inspection on all Tubewells and carried out tests.
* I brief to my lower staff against this timing.

Generator

* Generator is basic thing in WASA. it is necessary to keep the generator in order always. for this purpose I plan schedule maintenance of generator.
* I trained the operators for about operation of generator and its routine maintenance.
* A visual inspection I also carried out. and maintain it.

➡ *Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".*

2. Please share the problems or issues you are facing with in your sites and organizations

Many basic problems that we facing in which most important thing lack in Towns about his field, field waste, billing issues, etc.

We have not trained about his duty. We dont inform about basic rules of WASAs.

Training must be conducte WASA's own level for every employees.

3.Other Comments or Notes:

ALJAZARI ACADEMY

(15)

Action Plan

Name of Participant: Sadeer Ahmad ABBASI Date of Training: 30-03-2018

Name of Organization: WASA Rawalpindi

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

its basically a pannel box which Receive Electric supply for one or more source and distribute it over the system through protection.

(i) visual Inspection
(ii) cleaness.
(iii) voltage sleector switch
Isolation from the supply and Take following (Tests)

(1) Power amyalizer (2) clamp on meter (3) Earthing Test (4) Insulation test.

Generator

When I Come to my site I have do following things in my site.

(1) visual check (1) cleaness (2) leakages (3) Air filter (4) oil filter (5) coolient level (6) Battery electrolyte level (7) belt (8) oil level (9) fuel level. This is Basic thing that I've told my operater to check daily at sites.

➡ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

Electrical panel.

~~ii) Isolation from the supply.~~

② I will labeling all jurification Tubewell.

③ I will Improved Record keeping in my sites.

④ I will visual checks all the Tubewell.

⑤ I will brief my lower staff about this Training.

of where in a site Take some basic checks. ~~Information~~

(i) Visual check ① cleaness ② voltage Amp ③ electrict switches.

Some Test.

(i) Isolation from the supply.

① I am learing how to use - power anaylizer. power anaylize is use to voltage Ampere, Resistance Power factor. Reading

② I also perform Earthing Test. in this case the Green wire connect to the neutral other Two in Ground.

③ we also use Insolation Tester. Its use to called Insolation or panel Insolation Test.

④ Clamp or meter is used for voltage current & Resistance of only one phase.

R
Y
I
P.F.
V.I

← Power analyzer
clamp on meter
Earthing meter
Insulation meter

2. Please share the problems or issues you are facing with in your sites and organizations   (i) The Basic problem is that the Instalation are not properly Trained staff. (2) The operator at the sites are not educated. (3) These Training WASA's be conduct in his offices and Trained The operators.
3.Other Comments or Notes:

Generator.
Generator is Basic Things on WASA's. It is necessary to keep The Generator in order always purpose I plan seedule maintinace of generator. I Trained The my operator for operational generator and its Routine maintinance. A visit Inspection is also carried out and maintaine it.

EC-AP-01

(143)

ALJAZARI
ACADEMY

Action Plan

Name of Participant: M. Mustafa Senior Sub Engineer Date of Training: 30-3-18

Name of Organization: Wasa Multan

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel Electric Panel is most necessary equipment for smooth working in wasa facilities for water supply system and disposal works. In this regard daily inspect the electric panel such as Main switch, electrical wiring, Thimbles, Joints, complete.
If Power is off then operator asked to change the changeover switch.

Generator Generator is then used when electric power is off. For start of Generator the battery is in good conditions. For cooling system of generator is by Radiator and Air cleaner is in well condition. Lubrication system is done by Lift Pump, oil filter and Turbocharger. Fuel System is by Diesel oil, oil Pump and Diesel filter. All these systems is good condition by in time inspection, maintenance, and safety measures adopted.

➡ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

2. Please share the problems or issues you are facing with in your sites and organizations
3.Other Comments or Notes:

ALJAZARI ACADEMY

(13)

Action Plan

Name of Participant: Said Ullah Date of Training: 30-3-2018

Name of Organization: WASA MULTAN

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

Electrical panal is most necessy equipment for samooth working in wasa function for water supply and disposal station. for this regard daily inpnt the electrical panels.
Such as main switch power off the oprator starting the work. and shenged are switches and other problemes.

Generator

The Generator is them needed when electrical Power is off. First starting of a generator the battery is an good Condition. and Lubracation system and fual system and Air coling and ~~Air~~ air exting systems and there are these Conditon is good Condition by in time inspection.

➡ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

2. Please share the problems or issues you are facing with in your sites and organizations
3.Other Comments or Notes:

ALJAZARI
ACADEMY

(16)

Action Plan

Name of Participant: Syed Ali Raza. Date of Training: 30-3-2018

Name of Organization: Municipal Committee, Ahmed Pur East District Bahawal Pur

I. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance". Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

Action Plan

i) Visual Inspection of Indicator
ii) Cleaness iii) Isolation of main Supply

Test

Earthy Testing → Earth Tester
Resistance Test
Voltage Test
Amp test
P.F Frequency
V-I

Power analyze

VI Champ on meter

Generator

1. Visual Inspection of Generator
2- Cleaness of Generator.
3- Inspection of oil Fule
4- likeg of wall and oil Pimps
5- Voltag current and Power Factor, Chak Through Power Anylizer, | V, and I, R, Through Champon meter

Radiator Chek, water disel Saparator, air clener, air Filter, cooling level, bold chek, Batter Power, etc.

➡ Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".

Ali Raza

2. Please share the problems or issues you are facing with in your sites and organizations

First of all we are facing many Problems in my organization number one, Staff unskilled then are not understand 3 Phase Matchiness How can used, Second Government not Provid Traning Program in This regard, How can used 3-Phase Equipment, 3rd, Government not Allowed to ~~Requi~~ Appointed any Parsons, We are mange to used Matchen unskilled Persons, This cause ~~[illegible]~~ unfunction matchen and R Genrater, Tubewell etc.

3. Other Comments or Notes:

I Thanks for Aljazari Acdamy members and Staff and Principal They Provied me and my departments to traning Program, because 3-Phase my knowledge is very week in This Regard before Traning. Now I Skilled after Traning Program. I Request Them Please Provied used Trainings

EC-AP-01

ALJAZARI ACADEMY

(15)

Action Plan

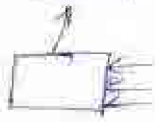
Name of Participant: MEHMOOD IQBAL	Date of Training: 30/3/2018
Name of Organization: M.C Ahmad Pur East. Dist Bahawalpur.	

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance". Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

we visit the site and check the Electric double with oppsates:
i - visal inspection of indicates (ii) cleanliness
(iii) Isolation from supply.
Earthing Test → Earth Taster

Earth Tester



Resistance Test · Voltage - Ampire
Power Factor. Frequency check the (Analyzer)(Tree Pave)

Generator

Voltage Ampere Check (Clamp on Meter)
Insulation Test (Insolation meter)

Generator.

we visit the site with opprates and check the Generator.
i, visal Check — Leakage.
Cleaness — Fule level.
oil level.

➡ Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".

Battery Electrolite (water check)
Coolent level. & radiator check.
Water diesel separator.
air cleaner. air filter check all
these Then Start the Generator.

MEHMOOD @ IQBAL

2. Please share the problems or issues you are facing with in your sites and organizations

1. our staff non Tencal Person.
2. we Try to check the system and ensure Fitnym all Fuer of Genrator and Electric Motor. But of all we di[illegible] of this new organization to help me to Try the [illegible]

3. Other Comments or Notes:

we satisfied ALJAZARI ACADEMY to assign of The Training operation and Maintenance (O&M) of electrical equipment Conflict and Thank full.

16

ALJAZARI ACADEMY

Action Plan

Name of Participant: SHAHRYAR ALI KHAN Date of Training: 30/03/2018

Name of Organization: WSSP

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance", Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

I will rearrange the components of all the MCCs properly. The major components of the MCCs which are not working or missing will be my priority to fix or install. Preventive maintenance will also be included.

Generator

In WSSP there are no generators at tubewell sites, but I have learnt the operation & maintenance procedure of generator & will apply if the facility is provided.

➡ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

2. Please share the problems or issues you are facing with in your sites and organizations

1.) voltage fluctuation
2.) Senior operators with less knowledge.
3.) Delay in approval process from highups.

3.Other Comments or Notes:

The course was very helpful & have learnt many things regarding the operation & maintenance of Control panels & Diesel generators.

ALJAZARI ACADEMY

(16)

Action Plan

Name of Participant: FARRUKH ZEB Date of Training: 30-3-2018

Name of Organization: WSSP

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance". Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

I will rearrange the components of all the MCCs properly. The components like circuit breaker and relays which are mostly not working or missing, will be my top priority to Fix/install in all the MCCs of tubewell. Preventive measures like insulation of wires and cleaning and covering of MCCs will also be included in my action plan. And lastly will try to arrange different testing equipments for smooth operation.

Generator

In WSSP there are no generators installed at sites. But learning the different components of generators and their cleaning is a huge knowledge.

➡ *Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".*

FARRUKH ZEB.

2. Please share the problems or issues you are facing with in your sites and organizations

① Operators of old age.

② Approval from high ups

Approval of different testing equipments.

③ Voltage fluctuation.

3.Other Comments or Notes:

The course was very helpful.
Please also include voltage Regulators in the course. Also something related to electricity bills and meters other then energy audit. If included in the course, That every one is assigned with a task to take reading using the equipments by him/herself, will be very helpful. Cleaning the generator was a step towards it.

ALJAZARI ACADEMY

(19)

Action Plan

Name of Participant: Jahan Zaib Khan Date of Training: 30 March, 2018

Name of Organization: WSSC Kohat.

1. Please focus on and list up the any actions you can actually apply at your sites. It should NOT be like just saying "SOP" "Preventive Maintenance". Please write down the possible actions as detail as possible such as including device name.

Electrical Panel

Visual inspection:

- Training of field supervisor.
- Replacement of MCU if most of equipments are unavailable
- Replacement of malfunctioning equipment or burnt equipments
- Out side condition: Check for Digital voltmeter, Name plate, Dig. tal Ammeter, lock, selector switch, indicator lamps, Warning signs.

Inside condition:

Availability of: Current transformer, Circuit breaker, magnetic contactor thermal/over load relay, MCBs, ~~Magnetic~~ U/o voltage relays etc.

- Analysis & Testing through insulation resistance tester, Power Analyzer, Digital multitype clampmeter.
- Record keeping, Manual availability, PPE availability, first Aid kit availability

Generator

- Installation of barrier/fencing and Covering
- Providing proper conduting for electric cables
- Daily check record keeping for fuel, oil, coolent, electrolyte, cleanliness, rubber belts, water diesel separator, air filter.
- Ensure availability of manfacturer manual.
- Identifing the deteriorated parts, any leakage etc.
- Replacement of any equipment with the same model.
- Change of oil filter, fuel filter after the specified period of manufacturer
- Warning signs availability
- Availibility of PPE and first Aid ket.

➡ ***Please choose some prioritized actions from the list above and put them into the attached format "OJT Implementation Procedure".***

Jahan Zaib Khan

2. Please share the problems or issues you are facing with in your sites and organizations

- Unavailibility of Technicians.
- Unavailibility of testing equipments.
- Unavailibility of budget for purchasing the testing equipments e.g. flow meter, power analyzer etc.

3. Other Comments or Notes:

- The training was quite beneficial for enhancing ~~and~~ my technical & managerial skills as it was much relevent to my assign responsibilities.
- I will convey to my superisor all the technical skills that I learnt here.
- The training will bring much improvement in existing working environment & in the long run in future.

Annex 4.62
Action Plan for O&M of Mechanical Equipment
in Spring 2018

JICA

ALJAZARI ACADEMY

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Mohsin Javed

Name of Organization: WASA Lahore

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1. I will adopt Safety Precautionary Measures in Break Down/ Maintenance Staff.
2. I will maintain machines/Equipment by for maintenance purpose.
3. I will adopt in my system 5S.
4. I will follow all necessary S.O.Ps

Please identify a site (in your organization) to implement the above training concepts.

Site: New Choomala

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 25-04-2018

Person Responsible (Your Name): Mohsin Javed.

Other Comments or Notes:

These training Sessions are very necessary to enhance person capabilities/skills.

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Qasim Tariq.

Name of Organization: ALJAZARI / WASA Lahore.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1- implement of 5S in office.
2- To check Frequently working condition of vehicles
3- Repare small parts of vehicles to Prevent them from major breakdown
4- Use Proper Equipments for different operations

Please identify a site (in your organization) to implement the above training concepts.

Site: Drainage Ravi Town.

Please provide a date by which you will implement the above trainings concepts.

Date: 25 April 2018.

Person Responsible (Your Name):

Qasim Tariq

Other Comments or Notes:

This kind of Training should be held for lower staff i.e Pump Operator & Breakdown staff

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: WAQAS LIAQAT.

Name of Organization: WASA LDA.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1. Placing of Safety Instructions on all installations.
2. Placing of Check List on all installations.
3. making of Preventive maintenance Schedule and approve from higher authority.
4. Placing of SOPs on all installations.
5. Conducting of necessary trainings of all operators.

Please identify a site (in your organization) to implement the above training concepts.

Site: Any one Subdivision.

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 2 months

Person Responsible (Your Name):

Waqas Liaqat.

Other Comments or Notes:

JICA

ALJAZARI ACADEMY

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: FATIMA EIMAN

Name of Organization: WASA LHR.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

⇒In my capacity, I will ensure effective implementation of 5s concept both in Term of data in Soft form and other material in my office.

⇒I will implement Record Keeping meaurement and Ensure the implementation of HSE.

Please identify a site (in your organization) to implement the above training concepts.

Site: Hydrology Directorate outfall office WASA LHR.

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 13-5-18

Person Responsible (Your Name):

FATIMA EIMAN.

Other Comments or Notes:

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: AAMIR TUFAIL.

Name of Organization: WASA, LAHORE.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

① Safety measures introduce at all Instalations in Ichhra Sub Division.

② Instruct: to operators for maintain Record of operation of Machines.

③ will Maintain all Machines or vehicles working in Ichhra Sub Division Provides.

④ Lights, Paints where necessary Requirement.

⑤ over hauling Pumps installed at D/S or T/W.S which need to Repair

Please identify a site (in your organization) to implement the above training concepts.

Site: RASOOL PARK DISPOSAL STATION

Please provide a date by which you will implement the above trainings concepts.

Date: 30-04-2018

Person Responsible (Your Name):

AAMIR TUFAIL (Sub-Engineer) (SDO, XEN, DIRECTOR) A.I. Town.

Other Comments or Notes:

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: M. Waqas Younas.

Name of Organization: WASA Lahore.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1). Internal employee your Provide the safety gard.
2). Gujjar Pura subdivision all of Tubewell Maintenance Shedule.
3). To Provide the Tubewell equipment.
4). sewerage system to work at S/W safety gard.

Please identify a site (in your organization) to implement the above training concepts.

Site: Valves from Tubewell.

Please provide a date by which you will implement the above trainings concepts.

Date: 30-04-2018

Person Responsible (Your Name): -

M. Waqas Younas. XEN(O&M)-II Div(O&M)-I Shalimar Town LHR.

Other Comments or Notes:

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Umar Farooq

Name of Organization: WASA Lahore

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

(i) First of all we will make proper shedule ~~of~~ proper maintenance of mechanical equipment in my Area.
(ii) I will make ensure the safety precaustion for my staff

Please identify a site (in your organization) to implement the above training concepts.

Site: Mozang Sub Division WASA (LDA) Lahore

Please provide a date by which you will implement the above trainings concepts.

Date: 30 ~~Ju~~ April 2018

Person Responsible (Your Name):

Umar Farooq

Other Comments or Notes:

Please sir, tells the maintenance importance to our high ups that they make proper shedule for maintenance for all over the agency.

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Rehman Ali Zia

Name of Organization: WASA, LDA, LAHORE

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1-) We/g will introduce personal ~~protective~~ protective Equipment -
2-) We/g will adopt safety precaution Measures in Break/ down Maintenance staff
3) we/g will adopt my system
4-) we/g will maintain machine
5) we/g will implement record keeping

Please identify a site (in your organization) to implement the above training concepts.

Site: Raheem Road Tubewell

Please provide a date by which you will implement the above trainings concepts.

Date: 24/4/2018

Person Responsible (Your Name):

Rehman Ali

Other Comments or Notes:

These trainings is very necessary to upgrade the skills.

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Muhammad Salman Ahmad

Name of Organization: WASA Gujranwala

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1) I shall make sure that all the servicemen wear their proper overalls.
2) I shall ensure the proper Maintainance of All the tws under my command. and will start from one tubewell. Which will have proper Markings, operation Procedure etc.

Please identify a site (in your organization) to implement the above training concepts.

Site: All tubewells in PC zone Gujranwala

Please provide a date by which you will implement the above trainings concepts.

Date: 30-6-18

Person Responsible (Your Name):

Muhammad Salman Ahmad.

Other Comments or Notes:

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Hafiz M. Awais Jamal

Name of Organization: WASA FSD

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

→ Use of Standardized Spare parts in maintenance of Mechanical equipments.

→ Proper Record Keeping in Excel form Instead of Manual booklet.

→ Ensuring safe working practices, i.e wearing proper PPE's during Maintenance works or other hard operations.

→ Implementation of 5-S technique at work place.

Please identify a site (in your organization) to implement the above training concepts.

Site: Water Treatment Plant (10 MGD) Samundri Road, Faisalabad.

Please provide a date by which you will implement the above trainings concepts.

Date: Continuous process, but may be started to implement by 1-month.

Person Responsible (Your Name):

Hafiz M. Awais Jamal

Other Comments or Notes:

NIL.

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Zohaib Aftab

Name of Organization: WASA Rawalpindi

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1) I will make sure Proper dozing of Chlorine.
2) I will try to implement Preventive Maintaince based on SOP.

Please identify a site (in your organization) to implement the above training concepts.

Site: Khayban-e-Sirsyed

Please provide a date by which you will implement the above trainings concepts.

Date: 1st June, 2018

Person Responsible (Your Name):

Zohaib Aftab

Other Comments or Notes:

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Noshad Aslam

Name of Organization: WASA Rawalpindi

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

① I have intention to improve and adopt to 5S ~~Act~~ on by site office.

Please identify a site (in your organization) to implement the above training concepts.

Site: Water Supply Complaint office Faroog-e-Azam Road

Please provide a date by which you will implement the above trainings concepts.

Date: one month

Person Responsible (Your Name): Noshad S/E W/S

Other Comments or Notes:

JICA

ALJAZARI ACADEMY

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Basharat Ali

Name of Organization: WASA Multan

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

1- I will use 5S in my store room of maintenance accesories

2- I will do preventive maintenance & check out of heavy vehicles on daily basis by inspection round walk.

4 - I will make sure of records keeping.

3- I will sort out my records having cupboard according to 5S & HSE.

Please identify a site (in your organization) to implement the above training concepts.

Site: Gulgasht sewerage division north office.

Please provide a date by which you will implement the above trainings concepts.

Date: April 23, 2018

Person Responsible (Your Name): Basharat Ali

Other Comments or Notes:

HES & 5S is very important exercise in our daily life & objectives to get our aims properly & healthy.

I realize it so much after this training

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Shazad. Malik

Name of Organization: MC . APE . BWP

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

(1) سب سے پہلے کچھ دن کے اندر میں اپنے اسٹاف میں سیفٹی کو فروری بناؤں گا
(2) اور ورکرز کو اپنی مشینری جیسے اور سکریشن کی ہینڈلنگ آپریشن کے بارے بتاؤں گا
(3) میرے علاقے میں کافی سیوریج لائن ہیں ان کے پمپ اور موٹرز کی مینٹیننس کی صورتحال کو بہتر بناؤں گا۔
(4) اور آفیسرز کو مشن کروں گا کہ یہ سب کام جو میں کرنا چاہتا ہوں ان کی کوئی رپورٹ کیپنگ بھی ہو۔

Please identify a site (in your organization) to implement the above training concepts.

Site: MC. APE. BWP

Please provide a date by which you will implement the above trainings concepts.

Date: 15-05-18

Person Responsible (Your Name):

Shahzad. Malik

Other Comments or Notes:

میں امید کرتا ہوں کہ میرے افسران بالا اس تبدیلی کے لیے مجھ سے تعاون کریں گے۔ شکریہ

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Syed ALI RAZA

Name of Organization: MC, APE, BWP

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

سب سے پہلے HSE پر کام کروں گا۔

① HSE کے حوالے سے اپنے ادارے میں ورکر کو HSE سے متعلق ہدایات فراہم کروں گا۔

جس سے ورکر کی بچاؤ، سیفٹی کو تحفظ حاصل ہو۔

۲۔ HSE کی ٹریننگ سے ورکر کو اپنی بچاؤ کے ساتھ ساتھ کام کرنے میں بھی دلچسپی پیدا ہو گی۔

کو بچاؤ کے حوالے سے First ایڈ دینے کے لیے اکو منڈل ٹریننگ دی جا سکے۔

Please identify a site (in your organization) to implement the above training concepts.

Site: MC, APE, BWP

Please provide a date by which <u>you will</u> implement the above trainings concepts.

Date: 25 - 4 - 2018

Person Responsible (Your Name): Syed ALI RAZA

Other Comments or Notes:

سب سے پہلے میں ٹریننگ کے بارے میں جناب چیئرمین صاحب کو آگاہ کروں

گا۔ اور اس کے فوائد کے بارے بتاؤں گا کہ HSE اور 5S کرنے سے

ادارہ کو کتنا فائدہ ہو سکتا ہے۔ مزید اس بارے میں اپنے کولیگ کو بھی

جا کر بتاؤں گا تاکہ اس ٹریننگ کا فائدہ ادارہ کو بھی ہو سکے۔

JICA

ALJAZARI ACADEMY

POST TRAINING ACTION PLAN

Training Title: O & M Mechanical Equipment Date of Training: April 9 - April 13th, 2018

Name of Participant: Farman Ali.

Name of Organization: Water & Sanitation Services Peshawar.

Please list five important concepts, ideas, or skills which you plan to take from the training and implement in your work

(please focus on assembly components, preventive maintenance, operating procedures, HSE & 5S)

- Implementation of PPEs
- Record keeping registers/booklets.
- Development & implementation of SOPs for each operation in Tube wells as well as plumbing distribution system.
- Development & displaying preventive maintenance plan for tube wells.
- Introducing HSE's related measures to the staff.

Please identify a site (in your organization) to implement the above training concepts.

Site: Tube wells.

Please provide a date by which you will implement the above trainings concepts.

Date: Within a couple of weeks.

Person Responsible (Your Name):

Farman Ali.

Other Comments or Notes: