Local Government & Community Development Department

Punjab Cities Program

Gap Analysis

of

Municipal Services infrastructure & service delivery

in

Jhelum City

Punjab Municipal Development Fund Company

Section-1 City Background

1.1. District Status

The city of Jhelum is the headquarters of Jhelum district, an administrative subdivision of the Punjab province. Jhelum is a few miles upstream from the site of the ancient Battle of the Hydaspes between the armies of Alexander and King Porus. A city called Bucephala was founded nearby to commemorate the death of Alexander's horse, Bucephalus. Other notable sites nearby include the 16th-century Rohtas Fort, the Tilla Jogian complex of ancient temples, and the 16th-century Grand Trunk Road which passes through the city. The name of the city is derived from the words Jal (pure water) and Ham (snow), as the river that flows through the tract, originates in the Himalayas. There are a number of industries in and around Jhelum city, including a tobacco factory, wood, marble, glass and flour mills.

1.2. Location

Jhelum is a city on the right bank of the Jhelum River, in the district of the same name in the north of Punjab province. It is situated on the Grand Trunk Road in the north-west at a distance of 180 Kilometers from the Lahore (Punjab capital). The city is located at a distance of 115 Kilometers from Islamabad and located at 32°56′ North latitude and 73°44′ East longitude and elevation of 234 meters above mean sea level.

1.3. The Climate

Jhelum has a monsoon-influenced humid subtropical climate which is extremely hot and humid in summer, and cold and generally dry in winter. The maximum recorded temperature in the pre-monsoon season of April to June is 49.2 °C (120.6 °F), whereas in winter the minimum temperature recorded is −0.6 °C (30.9 °F). Average annual rainfall is about 850 millimeters (33 in) which is much below the required quantity given the extremely high evaporation levels. Nevertheless, in the rainy season water torrents flow from the north to Jhelum River very rapidly and cause damage to the crops, bridges, roads. This is responsible for the soil erosion in the district.

1.4. Demographic status

The population census report of year 2017 has not been published by Government of Pakistan. However the provisional data available for this census shows the population of 254,765 persons for the city within municipal limits. A land scan process was done to estimate the population of entire inhabited areas of city in close approximation which was found to be 265,970 persons in the year 2017 with an annual growth rate of 1.66% and it is expected to rise to 313,469 persons in the year 2027. Some inhabitation has developed outside the municipal limits of the city and the municipal limits need to be extended.

1.5. Data collection

The formats for the data collection about the municipal services were designed and sent to the Municipal Committee. After receipt of these formats, the city was visited to;

1) Verify and correct the data provided by the Municipal Committee.
2) Update the descriptive maps of all the services in consultation with MC staff & Public Health Engineering Department local staff.

3) Identify the required improvements and extension of the municipal services infrastructure.
4) Identification of Public Private Partnership projects already executed.
5) Identify the capacity of the key officers to undertake the PPP projects and collaborative projects with other government agencies and MCs.
6) Public opinion surveys regarding the delivery of municipal services.

1.6. Situation analysis and Gap analysis

Situation analysis of the existing municipal services infrastructure and the quality of service delivery was done. Gap analysis was done to identify the problems, bottlenecks and shortcomings in the infrastructure itself and its operation & maintenance for each municipal service along with the correction/updating of descriptive maps which has been described in the following sections.

Section-2 Water supply system

2.1. Existing situation

The city is divided into two zones called Zone-1 (South zone) main Jhelum City & Zone-2 (North zone) Kala Gujran.

Both zones, served, un-served, contaminated and water shortage areas have been marked on the map attached with the report.

2.2. Water source

The city has sweet sub soil water which is fit for human consumption. Jhelum River is flowing at the eastern and southern periphery of the city. Tube wells have been installed at different points in the city to harness the deep underground fresh water. Water from some tube wells is being pumped into overhead reservoirs constructed at different locations of the city wherefrom it is fed to the distribution system. Three overhead reservoirs are currently non-functional and hence water is directly being supplied into distribution system.

2.3. Installation of tube-wells

2.3.1. Zone-1 (South Eastern zone):

This zone covers the main part of the city. 28 tube-wells have been installed in this zone at different locations and presently 20 tube-wells are operational whereas 8 tubewells have been abandoned due to the issue of the sand blowing.

2.3.2. Zone-2 (North Western zone):

8 Nos. tube wells have been installed in this zone at different locations and presently 5 tube-wells are operational whereas 3 tubewells have been abandoned due to the sand blowing.

Total tube-wells installed along with functional tube-wells and source capacity has been given in the table below;

Table-1 Total Source capacity

Zone	No. of tube wells	Capacity each (cusecs)	Total capacity (cusecs)	No of tube wells		Present working hours per day	Daily water production (mgd)	
				in working order	Abandoned		Present with 6 hours pumping	Possible with 12 hours pumping
Zone-1	28	1.0	28.0	20	8	6	2.70	5.4
Zone-2	8	1.0	8	5	3	6	0.68	1.36
Grand total	**36**	**-**	**36**	**25**	**11**		**3.38**	**6.76**
Present population of the city							265,970	Persons
Possible water production per capita per day							25.4	Gallons

The scheme was rehabilitated and extended in the year 2008-2009 under Punjab Municipal Services Improvement Project. Since then the sand blowing process in tubewells has reduced the number of operational tubewells and the present source capacity is not adequate to cater

for the non-metered consumer connections because of large water wastage occurring in every public water supply system. On the other hand the city inhabitation has extended in many directions. New tubewells need to be installed to cater the water shortage in the Jhelum city. However if the consumer meters are installed the present source capacity will be enough to give adequate quantity of water to the served areas.

2.4. Overhead reservoirs

The details of existing and operational overhead storage is given below:

Location	**Nos.**	**Capacity each** (Gallons)	**Operational Status**	**Type of repairs required**
Tehsil road	1	100,000	Operational	-
Kutcheri chowk	1	100,000	Operational	-
Bilal town	1	100,000	Operational	-
Mujahid abad	1	100,000	Non-Operational	Minor repairs required
Doctors Colony	1	100,000	Non-Operational	Minor repairs required
Kalla Gujran	1	100,000	Non-Operational	Major repairs required
Total	**6**	600,000		

2.5. Problems and gaps in the system

Under mentioned problems are bottlenecks are faced by the consumers in this water supply system;

2.5.1. Water shortage zones:

Water supply system is existing in the under mentioned parts of the city but these areas are subjected to sever water shortage

1- Dhok Babu Azam	2- Bilal town	3- Behari colony
4- Some areas of dhok Mubarak	5- Nai abadi	6- Al Madina town
7- Some areas of Dhok Firdos	8- Iqbal town	9- Kareempura
10- Model colony	11- Railway colony	12- Lalazar colony

Reasons for water shortage

- Many tube-wells have stopped working due to sand blowing, consequently giving rise to water shortage.
- Due to rapid development and expansion of the city, existing source capacity in these areas is not adequate to supply water to the entire population especially when the system is not metered and large water wastage is taking place.

- Water supply hours (6 hours/day) presently adopted by MC are not enough to supply all the consumers with adequate quantity of water. Increase in water supply hours can address the water shortage in these areas.
- Unequal distribution of water is another reason for water shortage wherein the consumers near to the tube-wells waste lot of water by keeping the taps open whereas the consumers at remote end of the distribution system do not get water.

2.5.2 Un-served areas: (shown in pink color in the map)

21 tubewells were installed by PMDFC under PMSIP in 2009 to meet the deficit source capacity at that time. But due to expansion of the city, the newly developed areas are not supplied with the water. Under mentioned areas of the city have still not been provided with the facility of water supply.

1- Katchi abadi	2- Some areas of Makhdoom abad	3- Sultan pura
4- Textile Mill	5- Nawab colony	6- Iqbal town
7- Shahpur	8- Gujjar pura	9- Gaziabad
10- PTC residential colony	11- KDC housing society	12- Garden town
13- Fazal abad	14- Small industrial estate	15- Bala badial
16- Rathiyan village		

2.5.3 Contaminated water zones:

The areas given below are being supplied with contaminated water and required steps to eliminate the contamination of water are required to be taken up.

1- Mohallah bagh	2- Mohallah khawajgan	3- Madni Mohallah
4- Shumali Mohallah	5- Nia Mohallah	6- Machine Mohallah 1,2 & 3
7- Abbas Pura		

Causes of contamination

- Main source of contamination is old and substandard consumer connections because of rusted and perforated GI service pipe resulting in ex-filtration and infiltration. Substandard PVC or lawn piping used in the consumer connections also causes pipe bursting and ultimate water contamination.
- Old and rusted main pipes are also leaking and producing contamination in the system. These pipes need replacement.
- The sluice valve chambers are filled with dirt and water and are one of the main sources of water contamination. This is due to non-packing of the valves stuffing boxes which is part of a routine maintenance.
- Non-cleaning and non-disinfection of the reservoirs and water supply lines develop bacteria and ultimately contaminate the system.

- Unfortunately the disinfection of the water is not regular. Either it is done in intervals or the disinfectant quality and dosage are not up to the mark which do not inject required amount of chlorine in the system and the contamination remains in place.

2.6. Water supply hours and consumer connections

Water is being supplied to the city in the below given timings.

Water Supply hours				Consumer connections			
Morning	**Midday**	**Evening**	**Total**	**Domestic**	**Commercial**	**Industrial**	**Total**
2	2	2	6	9924	80	Nil	10,004

The water supply hours/day are quite short and the quantity of water supplied is not adequate to meet the demand of the entire city which is resulting in water shortage at remote ends of distribution ends.

2.7. Total coverage of the city

The total area coverage of water supply in the city is 80% out of which 15 % area falls under water shortage and 10 % under the water contamination**.**

2.8. Tariff structure

The consumer connections are not metered and hence water wastage must be predominant over here. The tariff comprises of flat rates not even levied according to the area of houses. The water rates are given below;

Tariff Rates per month		
Domestic	**Com.**	**Ind.**
Rs. 100	Rs. 500	Nil

2.9. Required rehabilitation of the system

Out of 25 working tubewells Energy Audit has been carried out for 11 tubewells only as the sonic flow meter could not detect any flow from other tubewells as per PITCO Report. This report is not authentic. However as per data supplied by MC Jhelum under mentioned replacement and repairs are required for the tubewells

2.9.1. Replacement of tube wells

Replacement of two Nos working tubewells including pumping machinery, pump house and all allied works is required at sites namely Kashmir Colony and Makhdoom-a-abad because these tubewells are sand blowing.

2.9.1 Pumping machinery

a) Replacement of pumping machinery

The pumping units working in the tubewells at below given locations are quite old and have outlived their life. These are costing very high due to repeated repairs and are required to be replaced.

1	Ehsan Road
2	Mandi more
3	Sheesha Ground
4	Chak Abdullah
5	Dist Court
6	Norani Masjid

b) Repair of pumping machinery

As given in the Energy Audit report and as per consultation with MC Jhelum staff 10 Nos. pumping units require repairs..

2.9.2 Other components

The water from the aquifer under Jhelum contains certain type of compounds which are depositing in the pumping units and distribution pipe line in the form of yellow colored fluffy paste and are responsible for choking the pipes and pumps. The pumping units reduce their discharge and the distribution line reduce their carrying capacity because of this deposition.

Analysis of yellow colored depositions in pumps and pipe lines is required including chemical & bacteriological testing and suggesting remedial measures for its elimination/removal for improvement of water quality

Further undermentioned components of the system need repairs or replacements.

S.No.	Components	Repairs (Nos)	Replacements (Nos)	New installation (Nos)	Reasons
1	Bulk water meters 6” dia	20	0	0	Not functional
2	Motor control units ASD-40	0	15	0	Outlived their life
3	Installation of power factor improvement equipment	0	0	15	Power factor is below 0.8
4	Pump houses repairs including white & color wash	25	0	0	Need maintenance
5	Overhead reservoirs	5	0	0	Minor repairs including replacement of SVs & repair of chambers
6	Sluice valve chambers including top slabs and surface boxes	20	0	0	Damaged and top slabs broken
7	Replacement of underground portion of the old GI piping of consumer connections	0	5000	0	Underground GI pipe has corroded & perforated resulting in water contamination*
8	Repair of hypo chlorinators	25	0	0	Not working

9	Installation of water pressure gauges			25	Not installed
10	Cleaning of choked AC distribution pipe lines	2000 Rft	0	0	Yellow materials deposited in these pipe lines

2.10. Water wastage & Water management

Lot of water wastage is occurring in the water supply system in below given ways;

a) Some consumer connections have no taps.

b) Some consumers keep the taps open in all water supply hours although they do not need water.

c) Most of the overhead tanks of the consumers have no float valve and when their tank is full, the water flows down to the drains continuously during the supply hours.

The water wastage requires excessive water production and high electricity consumption. It is exerting a large pressure on the municipal budget. Large savings in the electricity bills and ultimately the O&M cost, can be affected by reducing the water wastage at the consumer ends. It will save lot of water and water shortage can be addressed by conservation of water being wasted at present. The best and efficient way to save water and reduce O&M cost is the consumer metering.

2.11. Installation of consumer meters.

The only and the effective way of water preservation and reduction of O&M cost is the consumer metering. Hence all the 10004 consumer connections are required to be metered. This will result in equal distribution of water, addressal of water shortage and supply of adequate water at good terminal pressure to all the consumers in the city. The concept of 24/7 water supply can also be practiced if consumer metering is accomplished.

2.12. O&M Charges and revenue recovery

The operation & maintenance charges and the revenue recovery affected during the last five years is given below;

Year	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**Total subsidy in five years**
O&M charges (million Rs)	18.63	20.36	22.14	20.47	23.89	**105.49**
Revenue recovery (million Rs)	4.74	2.9	2.84	0.81	7.01	**18.30**
Recovery % as compared with O&M exp.	25.4%	14.2%	12.8%	3.9%	29.3%	**17.3%**
Subsidy injected (million Rs)	13.89	17.46	19.3	19.66	16.88	**87.19**

The above mentioned data shows a very weak billing and recovery system of the water revenue which is required to be improved by capacity building of the recovery staff and taking the elected representatives in confidence.

2.13. Manpower deployment

Slot	Sanctioned strength	Existing strength	Vacant posts	Manpower on daily wages	Total man power deployed	Additional MC demand
Tube-well operators	18	18	0	0	18	17
Chowkidars	5	5	0	0	5	0
Electricians	2	1	1	0	1	2
Plumbers	3	2	1	0	2	4
Plumber helpers	0	0	0	0	0	4
Baildar	1	1	0	0	1	1
Total	29	27	2	0	27	28

The vacant positions of the field staff need to be filled for satisfactory service delivery.

2.14. Service delivery & recommendations

a) Water supply is intermittent and total 6 hours per day. The quantity of water being produced presently is not enough even in the served areas because of lesser supply hours which need to be increased to at least 12 hours a day.

b) Some of the areas are being supplied with contaminated water due to leaking pipes and substandard consumer connections. Replacement of these pipe lines is required for reduction of water contamination.

c) Some of the area is un-served due to lack of distribution system. Water supply facility for these areas needs to be planned & implemented.

d) Service piping and saddles of most of the existing substandard consumer connections in the underground should be replaced by HDPE piping and saddles.

e) Illegal connection should be detected by consumer surveys and regularized.

f) None of the consumer connection is metered and it is proposed to meter all the consumer connections to conserve water, reduce O&M cost, address water shortage and supply of adequate quantity of water to every consumer.

Section-3 Sewerage system

3.1. Existing situation

3.1.1. Coverage

The city has 70% coverage of sewerage system but only the main and branch sewers have been laid and the lateral sewers have been provided in small area of the city. The old city is mostly served by the surface drains discharging in main and branch sewers leading to Jhelum river creek.

3.1.2. Drainage zones.

The city has been divided in 2 zones with respect to the waste water drainage. Each zone with its coverage is described below;

a) Zone-A

Most of the area of this zone covering major part of the main city and Kala Gujran, is currently being drained through a 66" dia outfall sewer terminating into a main sullage carrier near Sahil Colony on right bank of the River Jhelum, under gravity which is discharging waste water directly in Jhelum River.

During floods in the River, the back lash of water surcharges the entire sewerage system in this zone causing flooding on to the roads and silting up of sewers. Hence a new disposal station has been constructed near Sahil colony by PHED department, which is used to pump the waste water in to Jhelum River by closing the sluice gate of gravity flow during River flood duration.

Some areas of the zone-A comprising of Dhok Jumma are served by 18" dia old sewer line which has been chocked from Mohammadi Chowk to Jinnaz Gah Chowk and hence needs replacement.

b) Zone-B

The areas in this zone are served by an outfall sewer of 42" dia terminating into a disposal work in Salman Paras. The pumping machinery in this disposal work has outlived its life and is no longer in use. The disposal works has been bypassed through a sullage carrier which is discharging directly into the River Jhelum.

The action has given rise to surcharging of sewers resulting in chocking of some branch sewers and flooding of the roads in these areas. Suleman Paras Disposal is currently non-functional and needs complete rehabilitation & replacement of machinery.

The chocked sewers along civil lines road, main sewer from ESD to Jamia Asria Chowk & main line near Ahle Hadees Chowk need replacement. Further some very old sewers in Shumalli Mohalla, Mohalla Khawajgan, Nia Mohalla & Madni Mohalla) have been chocked and need replacement as well. All these sewer lines have been marked in blue in the descriptive maps.

The city has storm water drainage problems and construction of storm water drains is needed along many roads to drain off the storm water properly.

3.1.3. Sewer lengths

The length of old sewers as per information given by the Municipal Committee, are given below; these are approximate lengths and may vary if actually measured at site;

Table3.1 Approximate lengths of existing sewers

Sewer dia. (inch)	**9**	**12**	**15**	**18**	**21**	**24**	**27**	**Total length in Km**
Length in Km	15.0	24.0	10.0	8.0	10.0	2.0	1.5	
Sewer dia (inch	**30**	**33**	**36**	**42**	**48**	**54**	**66**	**81.75**
Length in Km	3.0	1.0	0	5.0	1.5	0.5	0.25	

3.2. Existing pumping / disposal stations

The detail of each pumping station in the city is given below;

Location	**Nos of collect. Tanks**	**Nos of pumps**	**Discharge each (cusecs)**	**Total discharge (cusecs)**	**Motor BHP**	**Working status**	**Force main /S. carrier**			**Ultimate disposal**
							Size (inch)	**Length (ft)**	**Cond.**	
Suleman Paras	2	4	4.0	16.0	40	Non functional	18"	300'	damaged	Jhelum River
Sahil colony	2	4	10.0	40	100	Under construction	20"	4x400'	Newly laid	Jhelum River

3.3. The main issues and problems in the system

The main problems and bottlenecks confronted by the city are given below:

3.3.1. Damaged & surcharging sewers

Some of the sewers have been chocked or damaged and are resulting in surcharging and overflowing of waste water thus damaging public as well as private property. These sewers will require replacement. The detail is given below;

A. Main and branch sewers

S.N.	From	To	Length (feet)	Dia (inches)	Problem	Solution
1	ESD	Jamia Asria chowk	4000	21”	Choked	Replacement
2	Muhammadi chowk	janaz gah chowk	3500	18”	do	do
3	Mohallah bording	Jamia asria chowk	3500	18”	do	do
4	Mohallah khawaj gan	Mohallah bagh	2000	12”& 15”	do	do

Lateral sewers

S.N.	Location	Length (feet)	Dia in (inches)	Problem	Solution
1	Dhok jumma, nia mohallah, madni mohallah	15,000	9”-12”	Very old lines	Replacement
2	Machine mohallah 1,2 & 3.	25,000	9”-12”	do	do
3	Shumali mohallah, mohallah khawajgan, mohallah bagh.	15,000	9”-12”	do	do

3.3.2. Areas flooded with waste water

Under mentioned areas of the city in the western side are usually subjected to waste water flooding because of sewer surcharging and overflowing.

Mohallah Bagh	Mohallah khawajghan	Madni Mohallah
Nia Mohallah	Shumali Mohallah	Mohallah bording
Machine mohallah 1,2&3	Dhok jumma	

3.3.3. Other problems in the system

Presently under mentioned components of these disposal stations need repairs or replacement;

Component	Rehabilitation required
Suleman Paras disposal works (Year of construction 1980)	• **Repair of civil structures**; • Screening chamber = 1 No • Collecting tanks =2 Nos • Pumping house = 1 No • Repair of PCC approach road = 280 Rft • **Repairs/replacement of Mechanical & Electrical Components** • Replacement of sullage pumping units (4.0 cusecs capacity) = 4 Nos • Replacement of suction & delivery piping with valves = 4 sets • Installation of power factor improvement equipment (01 No). • Replacement of Motor Contorl Unit (01 No.) • Provision of missing delivery pipe 10" dia = 1000 Rft • Repair/Replacement of screen = 01 No • Repair/Replacement of penstock = 02 No • Replacement of motor control unit = 01 No
Sahil Colony disposal works	This disposal station is nearing completion by PHE Department and will be used only when the River is in flood and water backlash is experienced. The disposal works is expected to be completed and commissioned very soon if the required funds are made available to PHED.
Other components	• Provision of sewer safety equipment = 1 set • De-silting of partially-functional sewers as under; 42" dia = 2000 Rft 30" dia = 3000 Rft 18" dia = 7000 Rft • Supply of CI manhole base frames = 100 Nos • Supply of manhole covers = 100 Nos • Provision of winch machines for de silting of collecting tanks (01 No). • Provision of winch machines for de-silting and cleaning of sewer lines (01 No). • Raising of manholes & repair of gulley grating chambers = 50 Nos.

3.3.4. Un-served areas

The following areas of the city are presently without sewerage system;

1- Bilal town	2- Bihari colony	3- Dhok Babu Azam
4- Al Madina town	5- Shah pur	6- KDC Housing Society
7- Garden town	8- Fazal abad	9- Kashmir colony
10-Small industrial state	11-Rathiyan village	

Extension of the facility to the above mentioned un-served areas is needed for serving the entire population of the city.

3.4.5. Provision of gully grating chambers

Some gulley grating chambers have been provided in the sewerage systems to trap the silt and the floating materials but these require repairs. At other drain/sewer junctions no gulley grating are available and as such all these materials are flowing into the sewers and are the main reason for chocking the sewers.

The gulley grating chambers to connect the surface drains and storm water with the sewers are required to be repaired and provided in the entire sewerage system. The exact number of these chambers can only be determined after surveys and their inventory.

3.4.6. Raising of manholes

Some roads have been raised but the manholes have not been raised at the new road level. Hence these manholes are required to be raised to the present road level.

3.5. Waste water treatment

Waste water from all zones is being disposed-off in the Jhelum River without treatment. No treatment facility is available at all discharge points which is polluting precious fresh water of Jhelum River. Waste water treatment plants are required be constructed to lower down the BOD level as per National Environmental Quality Standards (NEQS).

3.6. Consumer connections

No consumer sewer/drain connection survey in the city has been conducted by this time. Hence the exact number of these connections cannot be estimated at this stage.

3.7. Tariff structure

All the old sewer connections are not being charged. However MC Jhelum has started charging the new connection at the time of their installation at the rate of Rs 720 per connection per annum irrespective of the house/plot area.

3.8. Operation & maintenance cost vs revenue recovery

The operation & maintenance cost of the sewerage system for the last five years along with the revenue recovery is given below;

O&M Expenditure vs Revenue Recovery (million Rs) (includes manpower, electricity, repairs/replacement & supplies)						
Year	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**Total for 5 years**
O&M expenditure	2.940	3.130	3.160	3.070	3.550	15.85
Revenue earned	2.020	2.200	2.040	0.980	3.300	10.54
Percentage recovery vs O&M cost	68.7%	70.3%	64.6%	31.9%	93%	66.5%
Subsidy injected	0.92	0.93	1.12	2.09	0.25	5.31

Waste water of the entire city is being disposed of by gravity and no pumping is involved except during high floods in the River. Hence the O&M charges are not so high. MC should make effort to collect the entire expenditure on this service from the consumers.

3.9. Manpower deployed

The manpower deployed presently for the operation & maintenance of the system is given below against the total regular strength of 23 persons.

Pump operators	2
Baildars	1
Supervisors	0
Sewer men	10
Total	**13**

MC is demanding additional manpower because of increase in population and very less strength as compared to the sewer network.

3.10. Service delivery level

The service delivery is not satisfactory. North zone is facing poor service delivery because of;

- Silting up of main sewers as mentioned in section (3.4).
- In 30% area of the city no sewerage facilities have been provided.
- In most of the city areas water from surface drains is being discharged into the sewers without gulley grating chambers which are allowing the silt and the floating materials to settle in the sewers. This forms the main reason for chocking of sewers and flooding of the roads and streets.
- MC Jhelum has acute shortage of manpower due to which capacity for de-silting the sewers is minimal.
- Service delivery in areas with very high slope is good but on the lower side of the city, near Jhelum River flatter sewer slopes giving low velocities resulting in deposit of solids in the sewers. Further in the presence of surcharging of sewers effective de-silting of sewers is not possible resulting in overflowing sewers.
- In unserved areas the streets and open spaces are subjected to waste water flooding.

3.11. Remedy to the main issues

Interventions described below are required to be implemented for relieving the flooded areas.

a) Rehabilitation or replacement of chocked sewers.
b) Rehabilitation of the disposal/pumping stations.
c) Extension of the facility in the un-served areas.
d) Construction of waste water treatment plants.

4.1 Existing situation

4.1.1 Available resources

a) Equipment & Machinery

Under mentioned collection and transportation machinery is available with MC to handle the solid waste;

S.N	Equipment/machinery	Total available Nos	Nos. requiring repair
1	Tractor & trolleys	05	02
4	Front blade tractors	01	-
5	Front end loaders	02	02

The existing machinery is neither sufficient nor cost effective and efficient giving rise to low efficiency of collection and disposal of the waste and as a result of that MC is facing higher waste management cost as well as complaints regarding the insanitary conditions in the city. Efficient and cost effective machinery is needed to increase the efficiency of collection and transportation for improving the sanitary conditions and lowering down the operational and maintenance costs.

b) Manpower Deployed

The manpower deployed for collection, transportation and disposal of the solid waste is given in the table below. As indicated by MC Officers, this manpower is not sufficient to serve the entire city at the given standards. Additional manpower required by the MC is also given here. Actual requirement will be identified after detail design and implementation of the project.

Slot	Sanctioned strength	Existing strength	Vacant posts	Manpower on daily wages	Total man power deployed	Additional MC demand
Sanitary workers	242	158	84	39	197	52
Vehicle drivers	10	8	2	0	8	5
Supervisors	7	6	1	0	6	0
Sanitary inspectors	0	0	0	0	0	1
Others	1	1	0	0	1	0
Total	**260**	**173**	**87**	**39**	**212**	**58**

The city has un-satisfactory solid waste management system. Limitation in resources is described as under;

4.2 Reasons for poor service

a) MC is facing shortage of vehicle drivers and other staff.
b) The equipment and machinery is neither efficient nor adequate to serve the entire city
c) No landfill site is available for dumping of solid waste. Currently waste is being dumped in open spaces near Mohallah Bagh and Suleman Paras which is totally

unhygienic. Both of these sites are located on the River right bank and the waste is sometime swept away by river floods thus polluting the fresh water

d) The waste is being openly dumped without compaction and provision of covers which is creating all sort of hazards say; pollution of underground water, vector and vector borne diseases, obnoxious smell and highly insanitary conditions.

4.3 Un-served and partially served areas

The entire city is not served with solid waste collection and disposal. 35% area of the city is fully served, 40% is partially served and 25% is un-served as marked on the map. In partially served areas service is rendered intermittently depending upon availability of manpower and transportation machinery. The detail of these areas is given below.

a) Partially served areas

No regular service is rendered in the under mentioned areas. The main complaints are attended by sending the machinery & labor once or twice a week.

1	Dhoke Mubarak	2	Al_Madina Town	3	Iqbal Town
4	Nai Abadi	5	Behari colony	6	Bilal Town
7	Dhoke Babu Azam	8	Shahpur	9	Mohallah Kala Gujran
10	Islamia colony	11	Mohallah Usmania	12	Kantrlli Road

b) Unserved areas

Under mentioned areas are still unserved;

1	Sultanpura	2	Mohallah Gaziabad	3	PTC Residential Colony
4	Fazalabad	5	KDC Housing society	6	Kashmir Colony
7	Garden town	8	Rathiyan village	9	Industrial estate
10	Bala Badial				

4.4 Solid waste Generation & Disposal

The solid waste management efficiency along with present dumping sites are given below;

Total waste generated per day		**Total waste collected (Tons)**		**% Efficiency of disposal**	**Name of dumping sites with distance in Km from the city center**	
					SiteNo-1	SiteNo-2
Cubic meters	**Tons**	**Cubic meters**	**Tons**		Mohallah Bagh	Suleman Paras
152	76	90	45	59%	Dumping presently on both sites	
Distance from city center (Km)					Just near the city	Just near the city
Open dumping= **O** Landfill= **LF**					O	O

4.5 Landfill development

Approximate area of 10 acres will be required for the next 10 years for construction of landfills for safe and sanitary disposal of the solid waste of the city. MC is trying to procure land in surroundings of Jhelum city for landfill. The suitability of the landfill site will be

determined after detailed surveys and design of the project by catering the requirement of the environmental standards in vogue in Punjab.

4.6 Vehicle parking Area:

MC has small but covered parking area at Suleman Paras disposal station where MC land is spread on approximately 2 acres. All solid waste transportation vehicles are parked in this area. This space is required to be converted in to proper parking area by construction of parking sheds, vehicles washing and service arrangements, small office and other allied facilities.

4.7 Levying of sanitation fees

No sanitation fee has been levied by MC and the entire expenditure given below is being met from MC's own resources and the PFC share being given by Provincial government.

4.8 Solid waste management financials (million Rs)

Year	2013-14	2014-15	2015-16	2016-17	2017-18	Total for 5 years
O&M Expenditure	89.930	75.810	73.500	80.000	102.140	421.38
Sanitation fee/month per house hold	0	0	0	0	0	0
Subsidy injected	89.930	75.810	73.500	80.000	102.140	421.38

MC will have to levy the sanitation fee to meet the expenditure on solid waste management or at least to lower down the subsidy presently being injected.

4.9 Service delivery

At the average, the service delivery level is not good with 59% efficiency. Some portion of the city is either un-served or partially served because of shortage of sanitary staff and machinery & equipment whereas the existing machinery and equipment is inefficient having costly operation and maintenance.

The solid waste is being dumped near Mohallah Bagh and Suleman Paras. Both of these sites are just within the city on the bank of River Jhelum. The dumped waste is resulting in totally unhygienic and insanitary conditions by creating hazards like obnoxious smell, sub soil water pollution and breeding of vectors causing water borne and vector diseases. Apart from that when the River goes in high floods, the solid waste dumps are swept away by river water which pollutes the fresh water in the river

Section-5 Road Infrastructure

-

5.1 City Roads Hierarchy

The main roads in the city and emerging from the city have under mentioned hierarchy;

S.No	Name of the road	Owner department
1	Jhelum-Lahore road (GT Road)	NHA
2	Jhelum-Rawalpindi road (GT Road)	NHA
3	Jhelum Tahlianwala road	Punjab Highway
4	Jhelum PD Khan road	do
5	All other roads	Municipal Committee roads

5.2 Existing situation

Some of the primary roads in MC Jhelum are in good condition & few roads need rehabilitation. Further many of the secondary roads/streets require rehabilitation. The detail of the problem roads is given below;

Problem Roads in Jhelum City								
S.N	**Name of road**	**From**	**To**	**Type of surface pavement**	**ROW (ft)**	**Paved width (ft)**	**Approx. length (Km)**	**Condition**
1	River Road	Tehsil Road	Mohallah Peeranghaib	TST	55	20	2.5	Poor
2	Machine Mohallah Road	Madni Mohallah	Machine Mohallah No,1	TST	60	20	1.5	Poor
3	Mujahadabad Road	Makhdommabad	Jaddah Chowk	TST	30	20	2.5	Poor
4	Mohallah Peera Ghaib streets	Main civil line road	Mohallah Peera Ghaib	TST	20	16	1.0	Poor
5	Disposal station approach road	Kachi abadi	Disposal MC Jhelum	TST	25	16	0.5	Poor
6	Mohalla Bagh street	Jubli ghat	Baba Kazim Shah	TST	30	20	2.0	Poor
7	Dhok jumma streets	Dhoke Juma	Jamia Asria road	TST	20	16	1.0	Poor
8	Machine mohalla 2& 3 streets	Muhammadi Chowk	Machine Mohallah No.3	TST	20	16	2.0	Poor
9	Christian mohalla street	Islampura road	Christian mohalla	PCC	22	16	0.3	Poor
10	Iqbal town (Near dhok firdos) street	Iqbal Town	Main road Karimpura	TST	25	16	0.70	Poor
11	Islam Pura and Ramzan Pura streets	Main road Islampura	Muhammadi Chowk	TST	20	16	2.5	Poor
12	Jaddah town streets	Doctors Colony	Jaddah Town	TST	18	16	0.5	Poor
13	Shumali mohalla street	Aneelah Hotel	Tehsil Road	TST	20	16	0.3	Poor
14	Mohalla makhdumabad streets	Al-minhaj Colony	Phattak ward No.2	PCC	20	16	0.7	Poor
15	Ibal town street	Karimpura Road	Iqbal Town	TST	20	16	0.4	Poor
16	Gujjarpura streets	Gujjarpura	GT Road	PCC	20	16	0.3	Poor
17	Mohalla kala Gujran streets	Mohalla kala Gujjran		TST	20	16	0.7	Poor
18	Streets near PTC Jhelum colony	From back side of PTC	GT Road	TST	18	16	0.5	Poor
19	Kashmir colony streets	Main GT Road	Park Kashmir Colony	TST	20	16	0.7	Poor
20	Civil lines Road	Railway Road	Dengi pully	TST	95	50	3.0	Good
21	Jaddah Road	Shandar Chowk	Jaddah Chungi	TST	70	50	2.5	Good

5.3 Resurfacing of roads

The below given roads have developed potholes and broken edges and need resurfacing

Sr.#	Name of road	ROW	Approx. Length	Width
		Ft	Km	Ft
R1	Muhammadi Chowk to Mehmood Abad	35	2.0	20
R2	Bilal Town Ward no 2 & 3 streets	30	1.0	20
R3	Nia Bazar to Noulakha Adda	30	2.0	16
R4	Civil Lines road to Old G.T road	95	3.0	50
R5	Mandi Mor to Katchery	60	2.0	40
R6	Baba Jada Road to Kala Gujran	60	3.0	30
R7	Qaid Abad Grid station road	50	2.0	30
R8	Azeem Road Kala Gujran	40	1.0	20
	Total length		**16.0**	

5.4 Construction of new roads

Below given roads are located in the interiors of the colonies and muhallahs and presently have TST surface. In view of the flooding of roads by waste water or storm water, MC Jhelum desires to reconstruct these roads afresh with concrete pavers which has longer life and can be easily replaced after laying of other services.

Sr. No.	Name of road	ROW	Length	Width
		Ft	Km	Ft
C-1	Mohalla Peera Ghaib streets	20	1.0	16
C-2	Disposal station approach road	25	0.5	16
C-3	Mohalla bagh street	30	0.3	20
C-4	Dhok jumma streets	20	1.0	16
C-5	Machine mohalla 2& 3 streets	20	2.0	16
C-6	Christian mohalla street	22	0.3	16
C-7	Iqbal town (Near dhok firdos) street	25	0.7	16
C-8	Islam Pura and Ramzan Pura streets	20	2.5	16
C-9	Jaddah town streets	18	0.5	16
C-10	Shumali mohalla street	20	0.3	16
C-11	Mohalla makhdumabad streets	20	0.7	16
C-12	Ibal town street	20	0.4	16
C-13	Gujjarpura streets	20	0.3	16

C-14	Mohalla kala Gujran streets	20	0.7	16
C-15	Streets near PTC Jhelum colony	18	0.5	16
C-16	Kashmir colony streets	20	0.7	16
	Total length		**12.4**	

Section-6 Parks and open spaces

6.1. Existing situation

Jhelum City has three small and medium parks named as Altaf Park, Akram Shaheed Park and Machine Mohalla Park. The condition of the parks is not satisfactory. The missing and degraded facilities in these parks are mentioned below.

6.2. Rehabilitation of the existing parks

The existing parks, mentioned below, are equipped with some facilities which are working in good condition but some of the facilities are in poor condition and need to be rehabilitated. On the other hand some important facilities are missing and need to be provided. The detail of all the required interventions to be done in these parks, for their upgrading, is given blow;

S No	Name of Park	Altaf Park	Akram Shaheed Park	Machine Mohallah Park
1	Location	Near Railway line Jhelum	Railway Colony	Machine Mohallah
2	Area of park in acres	9-Acre	2-Acre	0.25-Acre
3	Plantation of ornamental trees	Required	Required	Required
4	Provision and fixing of brackets and lights on the existing light poles	Required	Required	Required
5	Irrigation system	Municipal supply available	Municipal supply available	New system required
6	Provision of sprinkler lawn watering system	Required	Required	Required
5	Installation of Service cables and LT Control panels	Required	Required	Required
6	Toilets & toilet fixtures	Rehabilitation of existing toilets	Rehabilitation of existing toilets	Required
7	Lakes	No lake	No lake is there.	No lake is there.
8	Swings	Rehabilitation of the existing swings	Required	Required
9	Children electric outdoor games	Provision of space and three phase power connections for leasing the space to private sector installations.		
10	Benches	Rehabilitation of the existing benches if possible or provision of new concrete benches		New required
11	Sewerage system	Rehabilitation of	Rehabilitation of the	Provision of

		the toilet sewerage system	toilet sewerage system	new drainage system for new toilets
12	Drinking water	Rehabilitation of the existing facilities	Provision of new facility	Provision of new facility
13	Cafeteria	Required	Required	Required
14	Parking lots	Rehabilitation of existing parking lots to provide more space and parking facilities		New required
15	Restraints for entry of the vehicles in the parks	The entry gates of both parks should be provided with podiums and stairs on both sides for beauty and vehicles restraint		Required
16	Boundary wall	Already available		Required

6.3. Open spaces

The city has only one open space near Pir Baba Azmat Darbar covering an area of 5.0 acres. Municipal Committee desires to convert this open space in to parks because of congestion in the existing parks. Construction of park will bring about good recreational facilities for the citizen. Details of open spaces for conversion in to parks are given below:

Conversion of open spaces to Park

S.No	**Name of open space**	**Pir Baba Azmat Darbar**
1	Location	Near Pir baba Azmat Darbar
2	Area in acres	05
3	Present land use	Nil
4	Water table depth & quality	Water table depth = 100 ft Quality-good
5	Does MC intend to convert it into park?	Yes
6	Does MC intends to convert it into playground or stadium?	No
7	Will the space attract visitors if converted to park?	Yes

6.4. Expenditure on Maintenance of Parks

Under mentioned expenditure has been incurred on the upkeep of parks during the last 5 years.

(All figures in million Rs.)

Year	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**Total for 5 years**
O&M cost	0.98	1.08	1.19	1.31	1.44	6.00
Revenue earned	0	0	0	0	0	0
Subsidy injected	0.98	1.08	1.19	1.31	1.44	6.00

7.1 Existing Situation

Street light facility is available on many roads but on WAPDA electric poles in Jhelum city. Energy savers have been installed instead of LED lights which render a poor street light service. MC requires the street lights on major roads and streets.

Street light facility is available only on the under mentioned roads in the city. MC wants to convert the luminaries from sodium type to LED type to save the cost of energy.

S.N	Name of road/street	Existing type of Luminaries	No. of Luminaries	Length (Km)	Proposed type of
R1	Civil Lines Road	Sodium	75	1.0	LED 100 W
R2	Railway Road	Sodium	20	0.3	LED 100 W
R3	Jada Road	Sodium	15	0.25	LED 100 W
		Total	**100**	**1.55**	

7.2 Detail of existing street lights in mohallas

The light installed in different mohallas on the Wapda poles, as detailed below.

Sr. No	Area	Light type					Total	Operational	Poles type Wapda pole/st light pole
		Sodium (70 W)	100 W Bulb	Tube light (40 W/250 W)	Energy Saver (25 W)	Mercury Bulb			
1	Dhok Firdous, Dhok Mubarak	-	20	28	-	102	150	58	Wapda pole
2	Bismillah market, Bilal town	-	-	35	-	15	50	33	Wapda pole
3	Dhok Rajgaan	20	15	17	-	28	80	55	Wapda pole
4	Khawaja colony	-	15	35	-	20	70	38	Wapda pole
5	Mohallah Peer Ghaib	20	15	5	-	35	75	53	Wapda pole
6	Nia Mohallah	20	12	20	18	30	100	52	Wapda pole
7	Mohallah Bagh, Mohallah Khawajgan	10	20	20	20	25	95	50	Wapda pole
8	Madni Mohallah	18	30	15	15	32	110	70	Wapda pole
9	Almarkaz road	23	-	-	-	-	23	-	Wapda pole
10	Railway colony, Machine Mohallah 2	19	15	10	-	21	65	45	Wapda pole
11	Karam market, Machine Mohallah 3	2	25	20	30	28	105	57	Wapda pole
12	Mohallah Mujahidabaad	-	-	-	-	16	16	13	Wapda pole
13	Mohallah Mujahidabaad, ESD	-	-	-	-	15	15	0	Wapda pole

14	Abbas pura, Sultan pura	-	-	-	-	15	15	11	Wapda pole
15	Islam pura, Mohllah Jara, DHQ	-	-	-	-	21	21	17	Wapda pole
						Total =	**990**	**552**	

As per Energy Audit Report submitted by PITCO total number of light installed in Jhelum city is 886 out of which 262 numbers are operational. Large discrepancy has been observed in this case and it needs verification for which the Energy Audit Report is being sent to MC Jhelum for re-verification and reporting to this office.

7.3 Replacement/Repairs of allied equipment

It was reported by MC related staff that some of the allied equipment has been damaged and needs replacement which is given below;

- Cables and wires
- 15 Nos Circuit breakers
- Light accessories such as brackets, arms etc.

7.4 Provisions of new street lights

The detail of new lights as proposed by MC staff, is as follows;

Sr.#	Name of Road/Street	From	To	Length (Km)
N1	Tahlianwala Road	Forest department office	Post graduate college	2.5
N2	Session Court Road	Session court road	Kuchery chowk	0.4
N3	Jamia Asria Road	Jamia Asria chowk	Kuchery chowk	2.0
N4	Jadda Road	Jaddah chowk	Thana civil lines	2.5
N5	Tehsil Road	Thana civil lines	Tehsil road	0.5
N6	Mehrban road	Opposite DC House	Bait ul Abbas	0.5
N7	Islampura Road	Fresco bakery chowk	Islampura road	3.5
N8	Aziz Bhatti Road	Govt boys high school	Kuchery chowk	2.5
N9	ESD Road	ESD road	Main GT road	0.5
N10	Suleman Paras	Suleman paras	Tehsil road	1.0
N11	River Road	Masjid afghan	Darbar Baba Karam Shah	2.0
N12	Old GT Road	Lalazar colony road	Jadda Chowk	0.35
N13	Fateh Muhammad Road	Islampura gali ch. Fateh Muhammad	Akram Shaheed road	1.5
			Total length	**19.75**

7.5 Expenditure on street lights

Under mentioned expenditure on the Operation & Maintenance of the existing street lights has been incurred by MC Jhelum during the last 5 years. This includes the energy cost, manpower cost and cost of repairs and replacements.

(All figures in million Rs)

Year	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**Total for 5 years**
O&M Expenditures	4.670	5.240	5.480	5.390	3.820	24.60

Section-8
Public Private Partnership projects & Collaborative Projects executed by MC

8.1. Planning & Execution of PPP projects

As informed by Chief Officer no project in the Public Private Partnership Mode & Collaborative Mode has ever been executed by the Municipal Committee or defunct TMA Burewala. As such the key officers and staff have no experience as well as capacity for planning estimation and execution of such projects.

Section-9
Budgetary provisions on development of services infrastructure and O&M Cost

9.1. Development expenditure

The expenditure incurred on the development projects from year 2013-14 to the current financial year & source of financing is given below

(All figures in million Rs)

Description	2013-14	2014-15	2015-16	2016-17	2017-18
Expenditure on Development Projects	29.059	7.277	41.317	20.887	49.508
Source of Financing of Development Projects	Own source revenue	ADP grants	PFC share	PPP	Others (Specify)
	√	-	√	-	-
Expenditure on O&M of services and revenue generated					
Water supply					
Total O&M cost	18.63	20.36	22.14	20.47	23.89
Revenue earned	4.74	2.9	2.84	0.81	7.01
% revenue earned vs O&M charges	25.44%	14.24%	12.83%	3.96%	29.34%
Subsidy injected	13.89	17.46	19.3	19.66	16.88
Sewerage/drainage					
Total O&M cost	2.940	3.130	3.160	3.070	3.550
Revenue earned	2.020	2.200	2.040	0.980	3.300
% revenue earned vs O&M charges	68.71 %	70.29 %	64.56%	31.92%	92.96%
Subsidy injected	0.92	0.93	1.12	2.09	0.25
Solid waste management					

O&M cost	89.930	75.810	73.500	80.000	102.140
Revenue earned	Nil	Nil	Nil	Nil	Nil
Subsidy injected	89.930	75.810	73.500	80.000	102.140
Parks					
O&M cost	0.98	1.08	1.19	1.31	1.44
Revenue earned	Nil	Nil	Nil	Nil	Nil
Subsidy injected	0.98	1.08	1.19	1.31	1.44
Slaughter houses					
O&M cost	0.500	0.560	0.620	0.680	0.750
Revenue earned	0.050	0.650	1.240	1.360	1.270
Subsidy injected (-) Income (+)	0.450	-0.090	-0.620	-0.680	-0.520
Street Light					
Total Expenditure	4.670	5.240	5.480	5.390	3.820
Revenue earned	The service is not charged.				

Section-10 Manpower deployment & shortage

The manpower deployed by MC Jhelum as office staff is given below. The manpower deployed in the Municipal Services has been given in the respective sections.

S.No	Description	Sanctioned Regular strength	Actual Regular deployment	Regular Vacant Slots	Employed on daily basis	Shortage of regular personnel	Additional requirement
1	Key officers (BPS-17 & above)	6	2	4	0	4	0
2	Sub engineers	3	3	0	0	0	0
3	Support staff (BPS-16 & below	53	52	1	0	1	0
	Total office manpower	**62**	**57**	**5**	**0**	**5**	**0**
B	**Municipal services**						
1	Water supply	29	27	2	0	2	21
2	Sewerage	20	10	10	0	10	20
3	Solid waste management	260	173	48	39	48	52
4	Parks	10	10	0	0	0	10
5	Roads	0					
6	Street lights	4	3	1	0	1	10
7	Slaughter houses	3	3	0	0	0	0
	Total municipal services (B)	**326**	**226**	**61**	**39**	**61**	**103**
	Grand Total (A+B)	**388**	**283**	**66**	**39**	**66**	**103**

Section-11
Summary public opinion surveys regarding the municipal service delivery

S. No.	Name of Service	Total persons interviewed	Opinion of the persons interviewed				Average consumer opinion
			Poor (Nos)	Fair (Nos)	Good (Nos)	Excellent (Nos)	
1	Water supply quantity	12	7	3	2	0	Poor
2	Water supply quality	12	6	4	2	0	Fair
3	Sewerage	12	8	2	2	0	Poor
4	Drain cleaning	12	5	5	2	0	Fair
5	Street sweeping	12	2	6	4	0	Fair
6	Solid waste collection & disposal	12	5	5	2	0	Fair
7	Condition Parks & play grounds	12	6	4	2	0	Fair
8	Slaughter house functioning	12	6	6	0	0	Poor
9	Street light functioning	12	8	4	0	0	Poor
10	General condition of roads	12	4	5	3	0	Fair
11	Complaint attending capability	12	6	3	3	0	Fair

Survey of Public general view over service delivery

S.No	Name of person interviewed	Muhallah or Colony	Water supply		Sewerage	Drain cleaning	Street sweeping	Solid waste collection & disposal	Roads	Parks & play grounds	Slaughter houses	Street light	Complaint addressal
			Quantity	Quality									
1	Ali Imtiaz	Machine mohallah 2	Fair	poor	Poor	Fair	Fair	poor	Fair	Fair	Fair	Poor	good
2	Naveed Irfan	Mohallah bording	poor	good	Poor	Fair	Fair	Fair	poor	Fair	poor	Poor	Fair
3	Hameed Nizami	Islam pura	poor	poor	Poor	Poor	Fair	poor	poor	poor	Fair	Poor	poor
4	Mustafa Javed	Jadda town	poor	poor	Poor	Poor	Fair	poor	poor	poor	Fair	Poor	Fair
5	Imran Sheikh	Dhok Mubarak	Fair	Fair	Poor	Poor	Fair	Fair	Fair	poor	Fair	Poor	poor
6	Basit Mirza	Professor colony	poor	Fair	Poor	Poor	Fair	Fair	Fair	poor	Fair	Poor	Fair
7	Malik Salman	Mujahid abad	good	good	Fair	good	good	Fair	good	Fair	Fair	Fair	poor
8	Parvez Usman	Abbas pura	Fair	Fair	good	Fair	good	good	good	good	poor	Fair	good
9	Zubair Arshad	Bilal town	poor	poor	Poor	Fair	Poor	Poor	Fair	poor	Poor	Poor	Poor
10	Umair Nasir	Machine mohalla 3	poor	poor	Poor	Fair	Poor	Fair	Fair	poor	Poor	Poor	Poor
11	Hanzla Mushtaq	Mehmoodabad	good	poor	Fair	good	good	poor	good	Fair	poor	Fair	poor
12	Muneeb Ishtiaq	Mohalla Ghazi abad	poor	Fair	good	poor	good	good	poor	good	poor	Fair	good