

Record of Meeting – 191126 in Islamabad

Date:	26-Nov./2019	Time:	from 15:00 am to 16:00 am
Venue:	Japan Embassy		
Attendance			
Name	Position	Department / Organization	
Mr. Yuji Tokita	Counsellor	Japan Embassy	
Mr. Takuya Kikuchi	First Secretary	Japan Embassy	
JICA and JICA Survey Team(JST)			
Ms. Aya Tokumoto	Project Formulation Adviser	JICA Headquarter	
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1	JST / NSC	
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2	JST / NSC	
Mr. Masatoshi Iwamoto	Water Supply Planning Expert	JST / JAT	
Topics for Discussion:			
1. Explanation of outline of the Survey			
Topic	Contents of Discussion	Correspondence	
1	<p><u>Explanation of outline of the Survey</u></p> <p>Ms. Tokumoto and Mr. Dairaku explained outline of the survey based on inception report and power point.</p> <p>Mr. Tokita mentioned current situation of water supply and sewerage sector and high interest in Multan and Haripur.</p> <p>Mr. Dairaku explained importance of collaboration of soft component and hard component about the sector.</p> <p>Mr. Tokita mentioned Mr. Kikuchi join site survey of Haripur and Abbottabad.</p>		

Record of Meeting – 191126 in Islamabad

Date:	26-Nov./2019	Time:	from 09:30 am to 11:30 am
Venue:	Office of JICA Pakistan		
Attendance			
Name	Position	Department / Organization	
Mr. Shigeki Furuta	Chief Representative	JICA Pakistan	
Ms. Aya Tokumoto	Project Formulation Adviser	JICA Headquarter	
Mr. Hiroshi Nakano	Senior Country Officer	JICA Pakistan	
JICA Survey Team(JST)			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1	JST / NSC	
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2	JST / NSC	
Mr. Masatoshi Iwamoto	Water Supply Planning Expert	JST / JAT	
Mr. Kozo Hayashishita	Organization and System Planning Expert	JST / YW	
Topics for Discussion:			
<ol style="list-style-type: none"> 1. Introduction of outline of the Survey 2. Security meeting 			
Topic	Contents of Discussion	Corespondence	
1	<p><u>Explanation of outline of the Survey</u></p> <p>Ms. Tokumoto and Mr. Dairaku explained outline of the survey based on inception report and power point.</p> <p>Mr. Furuta mentioned current situation of water supply and sewerage sector and mentioned political impact to the sector in Karachi.</p> <p>Mr. Furuta mentioned that Japan Embassy has high interest to the survey.</p> <p>Mr. Dairaku and Mr. Hayashishita explained importance of operation and maintenance and Japanese knowledge about the sector especially operation and maintenance using daily, monthly and annual report.</p>		
2	<p><u>Security meeting</u></p> <p>Mr. Nakano mentioned current security situation and introduced security activities including Karachi based on latest security manual of Pakistan.</p>	Mr. Nakano send format data of Security Clearance Sheet to JST.	

Record of Meeting – 191126 in Lahore

Date:	26-Nov./2019	Time:	from 09.20 am to 10.40 am
Venue:	Office of the Managing Director of WASA Lahore		
Attendance			
Name	Position	Department / Organization	
Mr. Syed Zahid Aziz	Managing Director	WASA Lahore	
Mr. Naveed Mazhar	Deputy Managing Director (F.A&R)	WASA Lahore	
Mr. Aslam Khan Niazi	Deputy Managing Director (O&M)	WASA Lahore	
Mr. Muhammad Yousaf	Deputy Managing Director (Engr.)	WASA Lahore	
Mr. Sheikh Akram	Director (P&E)	WASA Lahore	
Mr. Zeeshan Bilal	Director (P&D)	WASA Lahore	
JICA Experts			
Mr. Koji Miyauchi	Urban Drainage Planning Expert	JST / JAT	
Mr. Hiroki Fujiwara	Machinery Expert	JST / NJS	
Mr. Koji Kimura	Environmental and Social Consideration Expert	JST / NSC	
Mr. Muhammad Hafeez	Supporting Staff	JST / Local	
Topics for Discussion:			
<ol style="list-style-type: none"> 1. Introduction of outline of WASA Lahore projects 2. JICA Study's scope 3. JICA Study's requirements 			
Topic	Contents of Discussion	Correspondence	
1	<p><u>Introduction of outline of WASA Lahore projects</u></p> <p>Mr. Syed Zahid Aziz, Managing Director presented the Introduction of outline of WASA Lahore projects and summarized as follows.</p> <ol style="list-style-type: none"> 1) Introduction of cleaning equipment for drains and sewers. 2) Introduction of ponding system for inundation prevention 3) Rehabilitation and expansion of the Pumping Stations for drains and sewers 4) Water supply zoning and meters installation 5) New 60 Tube Wells 		
2	<p><u>JICA Study's scope</u></p> <p>JICA Survey Team clarified that the study will focus on the component 1), 2) & 3).</p>		
3	<p><u>JICA Study's requirements</u></p> <p>JICA Survey Team requested a room in WASA for the team to use.</p>	<p>MD ordered to prepare a room for the team.</p> <p>Also, MD mentioned to do a favor for other things WASA issues in and out of Lahore.</p>	

Record of Meeting – 191127 in Haripur

Date:	27-Nov./2019	Time:	from 10:00 am to 11:00 am
Venue:	Office of JICA Pakistan		
Attendance			
Name	Position	Department / Organization	
Mr. Shahid Mehmood	Public Health Engineering Department Haripur/ Executive Engineer	PHED	
Japan Embassy, JICA and JICA Survey Team(JST)			
Mr. Takuya Kikuchi	First Secretary	Japan Embassy	
Ms. Aya Tokumoto	Project Formulation Adviser	JICA Headquarter	
Mr. M. Abrar Khan	Programme Officer, Water & Disaster Management	JICA Pakistan	
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1	JST / NSC	
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2	JST / NSC	
Mr. Masatoshi Iwamoto	Water Supply Planning Expert	JST / JAT	
Mr. Kozo Hayashishita	Organization and System Planning Expert	JST / YW	
Topics for Discussion:			
1. Introduction of outline of the Survey			
Topic	Contents of Discussion	Corespondence	
1	<p><u>Introduction of outline of the Survey</u></p> <p>Ms. Tokumoto and Mr. Dairaku explained outline of the survey based on power point presentation.</p> <p>Mr. Shahid Mehmood explained current situation of water supply and sewerage sector in Haripur based on the power point presentation.</p> <p>Mr. Shahid Mehmood mentioned that Haripur is good accessibility near to Islamabad, Capital of Pakistan and water charge of Haripur is very high.</p> <p>Mr. Shahid Mehmood concerned that daily distribution hour in Haripur is very short, one to two hours.</p> <p>Ms. Tokumoto mentioned that the survey is pre-mission to collect current data of the sector for JICA grant aid, so it takes more time to formulate the grant aid.</p>		

Record of Meeting – 191127 in Lahore

Date:	27-Nov./2019	Time:	from 16:30pm to 17:00 pm
Venue:	Office of the JICA Survey Team in WASA Lahore		
Attendance			
Name	Position	Department / Organization	
Mr. Muhammad Yousaf	Deputy Managing Director (Eng.)	WASA Lahore	
Mr. Nujeeb Warsi		WASA Lahore	
Mr. Muzaffar Abbas	SCE-VII	WASA Lahore	
JICA Experts			
Mr. Koji Miyauchi	Urban Drainage Planning Expert	JST / JAT	
Mr. Hiroki Fujiwara	Machinery Expert	JST / NJS	
Mr. Koji Kimura	Environmental and Social Consideration Expert	JST / NSC	
Mr. Muhammad Hafeez	Supporting Staff	JST / Local	
Topics for Discussion:			
1. Introduction of outline of ponding system plan for inundation prevention of WASA Lahore			
Topic	Contents of Discussion	Correspondence	
1	<p><u>Introduction of outline of ponding system plan of WASA Lahore</u></p> <p>WASA Staff presented the Introduction of outline of ponding system plan of WASA Lahore. That plan is under consideration in 20 to 25 locations.</p> <p>And JST responded that the idea is good, mentioning some examples of existing facilities in Japan.</p>		

Record of Meeting – 191128 in Lahore

Date:	28-Nov./2019	Time:	from 13.00 pm to 14.00 pm
Venue:	Office of the Managing Director / Conference room in WASA Lahore		
Attendance			
Name	Position	Department / Organization	
Mr. Syed Zahid Aziz	Managing Director	WASA Lahore	
Mr. Naveed Mazhar	Deputy Managing Director (F.A&R)	WASA Lahore	
Mr. Muhammad Yousaf	Deputy Managing Director (Engg.)	WASA Lahore	
Mr. Tayyal Malik	DD (P&D)	WASA Lahore	
Mr. Zeeshan Bilal	Director (P&D)	WASA Lahore	
Mr. Sheikh Akram	Director (P&E)	WASA Lahore	
Ms. Sumaira Iftikhar	DD (P&E)	WASA Lahore	
Ms. Samina Asif	DD (P&D)	WASA Lahore	
JICA			
Ms. Aya Tokumoto	Senior Country Officer, South Asia Div.2	JICA	
Mr. Abrar Khai	Pakistan office	JICA	
JICA Experts			
Mr. Takashi Dairaku	Team leader / Sewerage System Expert 1	JST / NSC	
Mr. Yuichiro Konno	Deputy Team leader / Sewerage System Expert 2	JST / NSC	
Mr. Koji Miyauchi	Urban Drainage Planning Expert	JST / JAT	
Mr. Hiroki Fujiwara	Machinery Expert	JST / NJS	
Mr. Koji Kimura	Environmental and Social Consideration Expert	JST / NSC	
Mr. Muhammad Hafeez	Supporting Staff	JST / Local	
Topics for Discussion:			
<ol style="list-style-type: none"> 1. Introduction of outline of WASA Lahore projects 2. JICA Study's scope 			
Topic	Contents of Discussion	Correspondence	
1	<p><u>Introduction of outline of WASA Lahore projects</u></p> <p>Mr. Mr. Syed Zahid Aziz, Managing Director presented the Introduction of outline of WASA Lahore projects and summarized as follows.</p> <ol style="list-style-type: none"> 1) Introduction of machineries for XXX. 2) Introduction of ponding system for inundation prevention 3) Pumping stations 4) Water supply zoning 5) Tube wells 		
2	<p><u>JICA Study's scope</u></p> <p>Ms. Aya Tokumoto clarified that the study will focus on the component 1), 2) & 3).</p>		

Record of Meeting – 191129 in Lahore

Date:	29-Nov./2019	Time:	from 15:00 am to 16:00 am
Venue:	Office of DESCON		
Attendance			
Name	Position	Department / Organization	
Mr. Muhammad Imran Khan Cheema	Head Business Development, Infrastructure Division	Descon Engineering Limited	
Mr. Shahid Latif Butt	Head Proposals, Infrastructure Division	Descon Engineering Limited	
JICA and JICA Survey Team(JST)			
Ms. Aya Tokumoto	Project Formulation Adviser	JICA Headquarter	
Mr. M. Abrar Khan	Programme Officer, Water & Disaster Management	JICA Pakistan	
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1	JST / NSC	
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2	JST / NSC	
Topics for Discussion:			
1. Introduction of outline of the Survey			
Topic	Contents of Discussion	Correspondence	
1	<p><u>Introduction of outline of the Survey</u></p> <p>Mr. Muhammad Imran Khan Cheema introduced summary of DESCON achievements.</p> <p>Ms. Tokumoto introduced outline of the survey.</p> <p>Mr. Muhammad Imran Khan Cheema gave current situation of water supply and sewerage sector and their opinion especially 5 target cities of the survey.</p> <p>Ms. Tokumoto mentioned that the survey is pre-mission to collect current data of the sector for JICA grant aid, so it takes more time to formulate the grant aid.</p>		

Record of Meeting – 191129 in Lahore

Date:	29-Nov./2019	Time:	from 12:30 am to 13:30 am
Venue:	Planning & Development Board(P&D), Government of Punjab		
Attendance			
Name	Position	Department / Organization	
Mr. Muhammad Abid Bodla	Member Infrastructure Development	P&D	
Mr. Zeeshan Anwar Awan	Assistant Chief	P&D	
Mr. Yasir Mubeen	Chief of the Section	P&D	
JICA and JICA Survey Team(JST)			
Ms. Aya Tokumoto	Project Formulation Adviser	JICA Headquarter	
Mr. M. Abrar Khan	Programme Officer, Water & Disaster Management	JICA Pakistan	
Mr. Takashi Dairaku	Team Leader/Sewerage Planning Expert1	JST / NSC	
Mr. Yuichiro Konno	Depty Team Leader/Sewerage Planning Expert2	JST / NSC	
Topics for Discussion:			
1. Introduction of outline of the Survey			
Topic	Contents of Discussion	Correspondence	
1	<p><u>Introduction of outline of the Survey</u></p> <p>Ms. Tokumoto and Mr. Dairaku explained outline of the survey based on power point presentation.</p> <p>Mr. Muhammad Abid Bodla explained current situation of water supply and sewerage sector in Punjab.</p> <p>Mr. Dairaku explained importance of collaboration of soft component and hard component about the sector.</p> <p>Mr. Abrar mentioned WASA Faisalabad have good practice so other WASAs and other cities should follow the example.</p> <p>Ms. Tokumoto mentioned that the survey is pre-mission to collect current data of the sector for JICA grant aid, so it takes more time to formulate the grant aid.</p>		

Record of Meeting – 191129 in Lahore

Date:	29-Nov./2019	Time:	from 10:00 am to 11:00 am
Venue:	Office of Housing, Urban Development & Public Health Engineering Department(PHED), Government of Punjab		
Attendance			
Name	Position	Department / Organization	
Mr. Salman Yusuf	Additional Secretary(Tech)	HUD & PHED	
Mr. Muazzam Jamil Malik	Deputy Secretary, UD	HUD & PHED	
JICA and JICA Survey Team(JST)			
Ms. Aya Tokumoto	Project Formulation Adviser	JICA Headquarter	
Mr. M. Abrar Khan	Programme Officer, Water & Disaster Management	JICA Pakistan	
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1	JST / NSC	
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2	JST / NSC	
Topics for Discussion:			
1. Introduction of outline of the Survey			
Topic	Contents of Discussion		Corespondence
1	<p><u>Introduction of outline of the Survey</u></p> <p>Ms. Tokumoto and Mr. Dairaku explained outline of the survey based on power point presentation.</p> <p>Mr. Salman Yusuf and Mr. Muazzam Jamil Malik explained current situation of water supply and sewerage sector in Punjab.</p> <p>Mr. Dairaku explained importance of collaboration of soft component and hard component about the sector.</p> <p>Ms. Tokumoto mentioned that the survey is pre-mission to collect current data of the sector for JICA grant aid, so it takes more time to formulate the grant aid.</p>		

Record of Meeting – 191130 in Lahore

Date:	30-Nov./2019	Time:	from 10.30 am to 14.00 pm
Venue:	Office of the JICA Survey Team in WASA Lahore		
Attendance			
Name	Position	Department / Organization	
Ms. Sumaira Iftikhar	DD (P&E)	WASA Lahore	
Mr. Zahees Rana		WASA Lahore	
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1	JST / NSC	
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2	JST / NSC	
Mr. Koji Miyauchi	Urban Drainage Planning Expert	JST / JAT	
Mr. Hiroki Fujiwara	Machinery Expert	JST / NJS	
Mr. Koji Kimura	Environmental and Social Consideration Expert	JST / NSC	
Mr. Muhammad Hafeez	Supporting Staff	JST / Local	
Topics for Discussion:			
<ol style="list-style-type: none"> 1. Confirmation on 1st Questionnaire 2. Request for 2nd Questionnaire 			
Topic	Contents of Discussion	Correspondence	
1	<u>Confirmation on 1st Questionnaire</u> Mr. Muhammad Hafeez and WASA Lahore staff clarified answers in the questionnaire..		
2	<u>Request for 2nd Questionnaire</u> JST requested WASA Lahore staff to fullfil the questionnaire and WASA Lahore staff admitted.	To be fulfilled and submitted by 4 th Dec. 2019	

Record of Meeting – 191202 in Multan

Date:	02-Dec./2019	Time:	from 09.45 am to 11.10 pm
Venue:	MD Office of WASA Multan		
Attendance			
Name	Position	Phone / E-mail	Department / Organization
Mr. Rao Muhammad Qasim	MD	03226147273	WASA Multan
Mr. Khalid Naseem	DMD	03334171626	WASA Multan
Mr. Muhammad Nadeem	AD	03334772108	WASA Multan
Mr. Arif Abbas	DD	03017777896	WASA Multan
Mr. Tariq Mehmood	AD	03006302594	WASA Multan
Mr. Abdus Salam	DD	03006303713	WASA Multan
Mr. Asif Francis	SSE	03226127558	WASA Multan
Mr. Irfan Ali	DD	03077996996	WASA Multan
Mr. Mushtaq khan	Dir	03002265251	WASA Multan
JICA Experts			
Ms. Aya Tokumoto	Senior Country Officer, South Asia Div.2		JICA
Mr. Abrar Khai	Pakistan office		JICA
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
Mr. Koji Miyauchi	Urban Drainage Planning Expert		JST / JAT
Mr. Hiroki Fujiwara	Machinery Expert		JST / NJS
Mr. Wajih Ud Din	Supporting Staff		JST / Local
Topics for Discussion:			
<ol style="list-style-type: none"> JICA Study's scope Introduction of WASA Multan current situation by Power Point. 			
Topic	Contents of Discussion		Correspondence
1	<u>JICA Study's scope</u> Ms. Tokumoto and Mr. Dairaku introduced survey area, objective, term, team member, target organization and survey summary of the survey		
2	<u>Introduction of outline of WASA Multan current situation</u> Mr. Nadeem presented the Introduction of WASA Multan summarized as follows. <ol style="list-style-type: none"> General Information Water Supply System Sewerage System Waste Water Management Plan List of available Machinery & Equipment Tentative list of proposed Machinery & Equipment Summary of total development budget 2019-20 Annual development programme 2019-20 Annual receipt & expenditure 2019-20 <p>Ms. Tokumoto mentioned that the survey is pre-mission to collect current data of the sector for JICA grant aid, so it takes more time to formulate the grant aid.</p> <p>Mr. Rao Muhammad Qasim mentioned arranging office for JST in WASA building until 7th Dec.</p>		

Record of Meeting – 191211 in Multan

Date:	11-Dec./2019	Time:	from 10.30 am to 11.00 am	
Venue:	Office of WASA Multan Central Division			
Attendance				
	Name	Position	Phone / E-mail	Department / Organization
	Muhammad Waqas Mehmood	D.D	03099200067	WASA Multan
	Hafeez Laghari	AD	03333567777	WASA Multan
	Muhammad Ishaq	Sub Engineer	03008765888	WASA Multan
	Said Ullah	Sub Engineer	03061641077	WASA Multan
	Mahmood Ahmad	AD	03006353992	WASA Multan
	Arslan Ali Mughal	Sub Engineer	03006393756	WASA Multan
	Malik Ishaq Bashir	Sub Engineer	03017524124	WASA Multan
	Ahmad Mujtaba	AD	03007322775	WASA Multan
	Ahmad Raza Hashmi	Sub Engineer	03039776329	WASA Multan
JICA Experts				
	Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
	Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
	Mr. Koji Miyauchi	Urban Drainage Planning Expert		JST / JAT
	Mr. Hiroki Fujiwara	Machinery Expert		JST / NJS
	Mr. Wajih Ud Din	Supporting Staff		JST / Local
Topics for Discussion:				
<ol style="list-style-type: none"> JICA Study's scope Introduction of current situation in central division. 				
Topic	Contents of Discussion			Correspondence
1	<u>JICA Study's scope</u> Mr. Dairaku introduced survey area, objective, term, team member, target organization and survey summary of the survey			
2	<u>Introduction of outline of WASA Multan current situation</u> Mr. Mehmood mentioned current situation of water supply and sewerage in central division. He mentioned that vehicles are not enough for pick up sewer workers and machines from office to clogged manhole. He mentioned over-head reservoirs do not work.			

Record of Meeting – 191211 in Multan

Date:	11-Dec./2019	Time:	from 12.30 am to 13.00 am
Venue:	Office of WASA Multan South Division		
Attendance			
Name	Position	Phone / E-mail	Department / Organization
Mr. Asif Francis	Assistant Director	0322-612-7558	WASA Multan
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
Mr. Koji Miyauchi	Urban Drainage Planning Expert		JST / JAT
Mr. Hiroki Fujiwara	Machinery Expert		JST / NJS
Mr. Wajih Ud Din	Supporting Staff		JST / Local
Topics for Discussion:			
<ol style="list-style-type: none"> JICA Study's scope Introduction of current situation in central division. 			
Topic	Contents of Discussion		Correspondence
1	<u>JICA Study's scope</u> Mr. Dairaku introduced survey area, objective, term, team member, target organization and survey summary of the survey		
2	<u>Introduction of outline of WASA Multan current situation</u> Mr. Francis mentioned current situation of water supply and sewerage in South division. He mentioned that vehicles are not enough for pick up sewer workers and machines from office to clogged manhole. He mentioned there is no budget for repairing machines or replacing equipment. He mentioned over-head reservoirs do not work.		

Record of Meeting – 191214 in Faisalabad

Date:	14-Dec./2019	Time:	from 15.30 am to 16.00 am
Venue:	Office of WASA Faisalabad		
Attendance			
Name	Position	Phone / E-mail	Department / Organization
Shoaib Rashid	Director Administration	0340-999-5001	WASA Faisalabad
Abdul Raouf Butt	Deputy Director for Finance	0340-999-5244	WASA Faisalabad
Umar Ayyal	In charge of Accounts	0340-999-5485	WASA Faisalabad
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
Mr. Yakuro Inoue	Financial Evaluation Expert2		JST / JAT
Mr. Syed Sultan Azam	Supporting Staff		JST / Local
Topics for Discussion:			
<ol style="list-style-type: none"> JICA Study's scope Introduction of current financial situation. 			
Topic	Contents of Discussion		Correspondence
1	<u>JICA Study's scope</u> Mr. Dairaku introduced survey area, objective, term, team member, target organization and survey summary of the survey		
2	<u>Introduction of outline of WASA Faisalabad current financial situation</u> Mr. Shoaib Rashid mentioned current financial situation of water supply and sewerage sector. Mr. Dairaku and Mr. Inoue mentioned that it is better to use subsidy from Pakistan government especially sewerage sector. There are some good practices such as Japan and other developed countries. Mr. Shoaib Rashid arranged meeting for discussion of financial improvement with JST next Monday.		

Record of Meeting – 191216 in Faisalabad

Date:	16-Dec./2019	Time:	from 9:30 am to 10:30 am
Venue:	Office of WASA Faisalabad		
Attendance			
Name	Position	Phone / E-mail	Department / Organization
Mr. Faqir Muhammad Chaudhry	Managing Director	0340-868-8888 wasa_fsd@yahoo.com pmuwasafsd@yahoo.com	WASA Faisalabad
Mr. Johnson Gill	Director Revenue Domestic	0340-999-5006 johnson.yatp@gmail.com	WASA Faisalabad
Mr. Shaher Yar Hassan	Director Revenue Industry & Commercial	0340-999-5600 shehiryaar1@gmail.com	WASA Faisalabad
Mr. Abdul Raouf Butt	Deputy Director for Finance	0340-999-5244 raoufbutt7@gmail.com	WASA Faisalabad
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
Mr. Yakuro Inoue	Financial Evaluation Expert2		JST / JAT
Mr. Syed Sultan Azam	Supporting Staff		JST / Local
Topics for Discussion:			
<ol style="list-style-type: none"> JICA Study's scope Discussion of current financial situation. 			
Topic	Contents of Discussion		Correspondence
1	<u>JICA Study's scope</u> Mr. Dairaku introduced survey area, objective, term, team member, target organization and survey summary of the survey		
2	<u>Discussion of current financial situation</u> Mr. Faqir Muhammad Chaudhry arranged meeting for financial discussion with Mr. Shaher Yan Hassan and other WASA members. Mr. Shaher Yan Hassan mentioned current financial situation of water supply and sewerage sector. Mr. Dairaku and Mr. Inoue mentioned that it is better to use subsidy from Pakistan government especially sewerage sector. There are some good practices such as Japan and other developed countries.		

Record of Meeting – 191217 in Faisalabad

Date:	17-Dec./2019	Time:	from 10:00 am to 11:30 am
Venue:	Office of WASA Faisalabad		
Attendance			
Name	Position	Phone / E-mail	Department / Organization
Mr. Johnson Gill	Director Revenue Domestic	0340-999-5006 johnson.yatp@gmail.com	WASA Faisalabad
Mr. Shaher Yar Hassan	Director Revenue Industry & Commercial	0340-999-5600 shehryaar1@gmail.com	WASA Faisalabad
Mr. Abdul Raouf Butt	Deputy Director for Finance	0340-999-5244 raoufbutt7@gmail.com	WASA Faisalabad
Mr. Shoaib Rashid	Director Administration	0340-999-5001 shoaib-rashid@hotmail.com	WASA Faisalabad
Mr. Adnan Nasar Khan	Deputy Managing Director Engineering	0340-999-5011	WASA Faisalabad
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
Mr. Yakuro Inoue	Financial Evaluation Expert2		JST / JAT
Mr. Syed Sultan Azam	Supporting Staff		JST / Local
Topics for Discussion:			
1. Discussion of current financial situation and questionnaire.			
Topic	Contents of Discussion		Correspondence
1	<p><u>Discussion of current financial situation</u> Mr. Inoue introduced current financial situation based on collected data and contents of the questionnaire.</p> <p>WASA staffs discussed and answered the questionnaire.</p> <p>WASA staffs and JST shared some issues. JST mentioned that it is important for financial improvement to stress activities of income, education and awareness.</p>		

Record of Meeting – 191218 in Faisalabad

Date:	18-Dec./2019	Time:	from 10:00 am to 10:30 am
Venue:	Office of Faisalabad Division Commissioner		
Attendance			
Name	Position	Phone / E-mail	Department / Organization
Mr. Ishrat Ali	Commissioner		Faisalabad Division
Mr. Faqir Muhammad Chaudhary	Directing Manager	0340-868-8888 wasa_fsd@yahoo.com	WASA Faisalabad
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
Mr. Yakuro Inoue	Financial Evaluation Expert2		JST / JAT
Others			
Mr. Nubuyuki Sato	Senior Consultant, Engineering Division 2, Technical Department		Japan Techno Co., Ltd
Mr. Kazuhisa Yamanaka	Group Leader, Engineering Section 1, Plant Engineering Department, Public-sector Division		Torishima Pump MFG. Co., Ltd
Mr. Kanta Hiramatsu	Professional Engineer (P. E. Jp), Water and Sanitation Group		Kokusai Kogyo Co., Ltd
Mr. Najeeb Ahmed	Managing Partner		South Asia Trade Links
Topics for Discussion:			
1. Discussion of current water supply and sewerage situation			
Topic	Contents of Discussion		Correspondence
1	<p><u>Discussion of current water supply and sewerage sector situation</u> Mr. Ishrat Ali mentioned current water supply and sewerage sector situation and expressed appreciation for JICA project of the sector so far.</p> <p>Mr. Sato explained his JICA project briefly.</p> <p>Mr. Dairaku and Mr. Faqir Muhammad Chaudhary introduced this survey briefly.</p> <p>Mr. Ishrat Ali mentioned he would always fully support this survey.</p>		

Record of Meeting – 191219 in Islamabad

Date:	19-Dec./2019	Time:	from 15:00 am to 15:30 am
Venue:	Office of French Development Agency		
Attendance			
Name	Position	Phone / E-mail	Department / Organization
Mr. Ahsan Imtiaz Paracha	Project Manager	0345-503-8999 parachaa@afd.fr	AFD
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
Mr. Masatoshi Iwamoto	Water Supply planning Expert		JST / JAT
Topics for Discussion:			
1. Discussion of current water supply and sewerage situation			
Topic	Contents of Discussion	Correspondence	
1	<p><u>Discussion of current water supply and sewerage sector situation</u></p> <p>Mr. Dairaku introduced this survey briefly.</p> <p>Mr. Ahsan Imtiaz Paracha mentioned AFD project below;</p> <ul style="list-style-type: none"> • AFD plans to proceed sewerage project in Lahore, now recruiting consultant for FS commencing next year. The cost is unclear. • AFD has water supply treatment plant project in Faisalabad. • AFD also plans to proceed capacity development of 5 WASAs by supporting through Al-Jazari Academy and local universities. <p>Mr. Ahsan Imtiaz Paracha mentioned current water supply and sewerage sector situation below;</p> <ul style="list-style-type: none"> • AIIB plans to proceed huge water supply and sewerage project in Lahore including construction of surface water treatment plant and wastewater interceptor pipeline. • WB has sewerage project in Karachi, but there are political issue and water supply system. He plans to go to Karachi next January. 		

Record of Meeting – 191219 in Islamabad

Date:	19-Dec./2019	Time:	from 16:10 am to 16:40 am
Venue:	Office of Danish International Development Agency		
Attendance			
Name	Position	Phone / E-mail	Department / Organization
Ms. Bente Schiller	Deputy Head of Mission	051-209-9800 bensch@um.dk	DANIDA
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
Mr. Masatoshi Iwamoto	Water Supply planning Expert		JST / JAT
Topics for Discussion:			
1. Discussion of current water supply and sewerage situation			
Topic	Contents of Discussion		Correspondence
1	<u>Discussion of current water supply and sewerage sector situation</u> Mr. Dairaku introduced this survey briefly. Ms. Bente Schiller mentioned DANIDA project below; <ul style="list-style-type: none"> • DANIDA plans to proceed sewerage project in Faisalabad constructing wastewater treatment plant. • DANIDA plans to proceed sewerage project in Lahore constructing Kattar Bund wastewater treatment plant. • Technical Assistance for the sector is needed by grant. 		

Record of Meeting – 191220 in Islamabad

Date:	20-Dec./2019	Time:	from 11:00 am to 11:30 am
Venue:	Office of Asian Development Bank		
Attendance			
Name	Position	Phone / E-mail	Department / Organization
Mr. Syed Umar Ali Shah	Senior Project Officer, Pakistan Resident Mission	0321-904-3232 ushah@adb.org	ADB
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
Mr. Masatoshi Iwamoto	Water Supply planning Expert		JST / JAT
Topics for Discussion:			
1. Discussion of current water supply and sewerage situation			
Topic	Contents of Discussion		Correspondence
1	<p><u>Discussion of current water supply and sewerage sector situation</u></p> <p>Mr. Dairaku introduced this survey briefly.</p> <p>Mr. Syed Umar Ali Shah mentioned ADB project below;</p> <ul style="list-style-type: none"> • ADB plans to proceed sewerage project in Multan constructing wastewater treatment plant and sullage carrier pipeline. • ADB plans to proceed data collection survey of multi sector in 14 cities including Sargodha and Sahiwal. • He mentioned ADB takes into account intermediate cities and WB takes into account large cities. • He said that landfill project for solid waste management is high priority. 		

Record of Meeting – 191220 in Islamabad

Date:	20-Dec./2019	Time:	from 16:30 am to 17:00 am
Venue:	Japan Embassy		
Attendance			
Name	Position	Department / Organization	
Mr. Yuji Tokita	Counsellor	Japan Embassy	
Mr. Takuya Kikuchi	First Secretary	Japan Embassy	
Mr. Akinobu Kuwamura	First Secretary	Japan Embassy	
JICA and JICA Survey Team(JST)			
Ms. Kazuho Ujiie	Representative	JICA Pakistan	
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1	JST / NSC	
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2	JST / NSC	
Mr. Masatoshi Iwamoto	Water Supply Planning Expert	JST / JAT	
Mr. Masayuki Nagamochi	Management Planning Expert	JST / NSC	
Topics for Discussion:			
<ol style="list-style-type: none"> 1. Report of the survey result 2. Others 			
Topic	Contents of Discussion	Correspondence	
1	<p><u>Report of the survey</u></p> <p>Mr. Dairaku and Mr. Iwamoto reported survey result based on field survey from 25th Nov to 20th Dec.</p> <p>Mr. Dairaku mentioned that needs of WASA Multan are provision of materials and equipment for maintenance of sewer pipelines and drainage channels.</p> <p>Mr. Iwamoto mentioned that it is need to use both spring and tube well to cover water demand of Haripur.</p> <p>Mr. Dairaku mentioned that large amount of solid waste has been dumping to drainage by cleaning companies in Lahore. He also reported the cause of the inundation in Lahore is not only the dumping of garbage, but also the lack of facilities such as rainwater drainage in the streets other than drainage canals.</p> <p>Mr. Dairaku suggested that financial seminar in Faisalabad in March 2020 should include both JST and WASA side presentation, and panel discussion. He also suggested Punjab state should be invited the seminar to let them know financial situation and latest issue of WASA Faisalabad.</p>		
2	<p><u>Others</u></p> <p>Mr. Tokita mentioned Karachi project formation below;</p> <ul style="list-style-type: none"> • Japan Embassy have high interest in Karachi project formation. • Information to consider possibility to form project is required. 		

Record of Meeting – 191220 in Islamabad

Date:	20-Dec./2019	Time:	From 15:00 am to 16:00 am
Venue:	Office of JICA Pakistan		
Attendance			
Name	Position	Department / Organization	
Mr. Shigeki Furuta	Chief Representative	JICA Pakistan	
Mr. Akihiro Takashima	Senior Representative	JICA Pakistan	
Ms. Kazuho Ujiie	Representative	JICA Pakistan	
Mr. Nobuhiro Kawatani	Director	JICA Headquarter	
Ms. Aya Tokumoto	Project Formulation Adviser	JICA Headquarter	
JICA Survey Team(JST)			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1	JST / NSC	
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2	JST / NSC	
Mr. Masatoshi Iwamoto	Water Supply Planning Expert	JST / JAT	
Mr. Masayuki Nagamochi	Management Planning Expert	JST / NSC	
Topics for Discussion:			
<ol style="list-style-type: none"> Report of the survey result Others 			
Topic	Contents of Discussion	Correspondence	
1	<p><u>Report of the survey result</u></p> <p>Mr. Dairaku and Mr. Iwamoto reported survey result based on field survey from 25th Nov to 20th Dec.</p> <p>Mr. Dairaku mentioned that provision of materials and equipment for maintenance of sewer pipelines and drainage channels is adapted to needs of WASA Multan.</p> <p>Ms. Ujiie asked possibility of usage of river surface water as drinking water source, and Mr Iwamoto answered it is difficult because construction of water intake and transfer pipeline is difficult and costly. Mr. Iwamoto mentioned that it is need to use both spring and tube well to cover water demand of Haripur.</p> <p>Mr. Dairaku mentioned that large amount of solid waste have been dumped to drainage by cleaning companies in Lahore. He also reported the cause of the inundation in Lahore is not the dumping of garbage, but the lack of facilities such as rainwater drainage.</p> <p>Mr. Dairaku suggested that financial seminar in Faisalabad in March 2020 should include 2 JST presentations, 1 WASA presentation and panel discussion. He also suggested Punjab state should be invited the seminar to let them know financial situation and latest issue of WASA Faisalabad.</p>		
2	<p><u>Others</u></p> <p>Ms. Tokumoto will send comment for inception report today.</p> <p>Mr. Furuta mentioned Karachi project formation below;</p> <ul style="list-style-type: none"> • Japan Embassy have high interest in Karachi project formation. • WB have related project in Karachi. • JICA want information to consider possibility to form project such as political issue, other water related organization like DHC and PPP project formation process. 		

Record of Meeting – 191220 in Islamabad

Date:	4-Mar./2020	Time:	from 14:00 to 14:30
Venue:	Office of Asian Development Bank		
Attendance			
Name	Position	Phone / E-mail	Department / Organization
Mr. Mian S. Shafi	Unit Head, Urban, Water & Emergency Assistance Pakistan Resident Mission	+92 51 208 7300/260 0351-69 mshafi@adb.org	ADB
JICA			
Ms. Kazuho Ujiie	Representative		JICA Pakistan
Ms. Aya Tokumoto	Project Formulation Adviser		JICA Headquarter
Mr. M. Abrar Khan	Programme Officer, Water & Disaster Management		JICA Pakistan
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
Mr. Masatoshi Iwamoto	Water Supply Planning Expert		JST / JAT
Topics for Discussion:			
1. Discussion of current water supply and sewerage situation of Multan			
Topic	Contents of Discussion		Correspondence
1	<p><u>Discussion of current water supply and sewerage sector situation</u></p> <p>Ms. Tokumoto introduced this survey briefly.</p> <p>Mr. Mian S. Shafi mentioned ADB project below;</p> <ul style="list-style-type: none"> • ADB plans to proceed sewerage project in Multan constructing wastewater treatment plant and sullage carrier pipeline of 300 – 400 Million PKR. And ADB plans to include “Technical Assistance” to the project. • NESPAC knows a situation of sewerage in Multan very well because the conducted water and sewerage master plan with WASA Multan. • ADB hope to cooperate with JICA and allocate projects to formulate these project efficiently and effectively. 		

Record of Meeting – Zoom Meeting

Date:	4-September. /2021	Time:	from 10:30	to 11:20
Venue:	Zoom meeting			
Attendance				
Name	Position	Phone / E-mail	Department / Organization	
Mr. Ghufran	Deputy MD(O&M) WASA Lahore	+92 3333339735	WASA Lahore	
JICA Experts				
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC	
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC	
Mr Muhammad Hafeez	Support Staff			
Topics for Discussion:				
1. Discussion of Drainage sore points and remedial measures of WASA Lahore				
Topic	Contents of Discussion		Correspondence	
1	<ul style="list-style-type: none"> • Ms. Ghufran thanked JICA for their continuous support in Drainage and Machinery projects. He especially referred to the JICA Project of 2006 regarding Drainage improvement and 2012 Project for overall improvement in Sewerage and drainage system and Institutional Improvement. • He explained about successful construction of one under ground water tank at Lawrence Road which proved to be quite useful during rains. WASA is going to construct similar projects on further two points. He explained that there are 22 sore points which need some solution. • Mr Takashi Dairaku briefed on power point regarding his proposal to eliminate the ponding points in Lahore. He informed that he has already designed a similar scheme in some other country which successfully resolved the ponding problem. • Mr Takashi Dairaku further briefed about his design and suggested to implement it in Lahore in a phased manner. • Mr Ghufran DMD WASA agreed on Mr Takashi Dairaku,s proposal and offered him to choose any remaining sore point. • The meeting ended with good wishes to each other 			

Record of Meeting – 210909 on Zoom

Date:	9-Sep./2021	Time:	from 14:00 to 15:30
Venue:	Zoom Meeting with Karachi Water and Sewerage Board (KWSB)		
Attendance			
Name	Position	Phone / E-mail	Department / Organization
Mr. Ayub Shaikh	Senior Engineer	0300- 2723448 Hasan_Kazmi2002@yahoo.com	KWSB
Mr. Hasan Ejaz Kazmi	Project Director	0300- 2486048 ayuri43@yahoo.com	KWSB
JICA Experts			
Mr. Takashi Dairaku	Team Leader / Sewerage Planning Expert1		JST / NSC
Mr. Yuichiro Konno	Depty Team Leader / Sewerage Planning Expert2		JST / NSC
Mr. Kozo Hayashishita	Organization and System Planning Expert		JST / NSC
Mr. Naomi Mori	Financial Evaluation Expert1		JST / NSC
Topics for Discussion:			
Topic	Contents of Discussion	Correspondence	
1	<ul style="list-style-type: none"> • Mr. Dairaku thanked KWSB for accepting this zoom meeting in busy time. He mentioned JICA projects focus Punjab Province mainly but look for possibility future project in Karachi. • Mr. Konno introduced this survey summary and asked KWSB to share project report of three projects KWSSIP, K-IV, and S-III projects. He also asked them to reply questionnaire he sent them 7th Sep. • Mr. Kazmi explained status of ongoing KWSB project. K-IV project in in detail design phase. • Mr. Shaikh explained status of KWSSIP. KWSB entered into agreement with World Bank to carry out series of studies and projects under KWSSIP. • Mr. Shaikh mentioned a need of Private-Public-Partnership scheme for developing KWSB projects. • Mr. Dairaku thanked their explanations of main projects. He asked KWSB to keep in touch and would like to closely share information and look for the possibility of JICA's water and sewage project in the future. He asked KWSB next zoom meeting for sharing this survey results in other cities and introducing Japanese pipe jacking method technologies. • Mr. Dairaku mentioned status of drainage management especially flooding management in Karachi. • Mr. Shaikh explained KWSB needs solution for improving flood control based on world climate change. • Mr. Kazmi mentioned that Karachi has no progress on water supply and sewerage sector based on the 2008 JICA Master Plan. • Mr. Mori asked KWSB to provide latest KWSB financial data. • Mr. Hayashishita asked KWSB to provide latest KWSB 	<p>Mr. Kazmi accepted sending report and replying questionnaire.</p> <p>KWSB accepted attending next meeting.</p> <p>Mr. Kazmi accepted sending the data. Mr. Kazmi accepted</p>	

	<p>organizational chart.</p> <ul style="list-style-type: none">• Mr. Shaikh thanked for having successful meeting with JICA survey team.	<p>sending the data.</p>
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POINTS TO BE CONFIRMED AND NECESSARY DATA / INFORMATION FOR WATER SUPPLY AND SEWERAGE SECTOR

(To: WASA—Multan and related institutions)

The following required data and information would be asked to WASA-Multan and related institutions staff from our Project mission members individually, we would greatly appreciate if you could help our members to acquire data/information described below.

December 2019

General information for water supply and sewerage entity				
Category	Priority	Question	Answer	
Basic information	1st	Q1: Utility name	1) Full name	Water and Sanitation Agency (MDA) Multan.
	1st		2) Acronym or abbreviated name	WASA (MDA) Multan.
	1st	Q2: Head of water utility	1) Name	Rao M. Qasim.
	1st		2) Title	Managing Director.
	2nd	Q3: Contact person	1) Name	M. Nadeem
	2nd		2) Title	Assistant Director (P&D)
	2nd		3) Email address	Wasa_mln@yahoo.com
	2nd		4) Telephone	061-9330017
	2nd		5) Fax	061-9330013

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	2nd		6) Mailing address	Wasa head office 316-A shamasabad colony Multan.
	2nd		Q4: In which year was your utility established?	April, 1992
	2nd		Q5: In which month does the fiscal year start in your utility?	April
Utility type and responsibilities	1st	Q6: Does your utility provide the following services?	1) Piped water supply services [Yes or No]	Yes
	1st		2) Wastewater services [Yes or No]	Yes
	1st		3) Stormwater drainage [Yes or No]	Yes
	1st		4) Solid waste services [Yes or No]	No
	1st		5) Other, please specify.	–
	1st	Q7: What type of utility is it?	1. National government water department (e.g. part of a ministry) - not ring fenced (i.e. financial information for water/wastewater functions is not reported separately from other government activities); 2. Local government water department (e.g. part of a municipality) - not ring fenced (see 1.); 3. National government water department (e.g. part of a ministry) - ring fenced (i.e. financial information for water/wastewater functions are reported separately from other government activities); 4. Local government water department (e.g. part of a municipality - ring fenced (see 3.); 5. Provider wholly owned by local or national government, operating under commercial law; 6. Jointly owned provider (Government and Private) operating under commercial law; 7. Not-for-profit provider operating under commercial law;	2

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		8. Privately owned provider operating under commercial law. Note: Generally, the further down the list, the higher the flexibility of management and necessity for governance of the utility.	
1st	Q8: To what extent is the private sector involved in your utility? Please choose up to 3 from the following: [1. Not at all, 2. Service contract(s), 3. Management contract(s), 4-1. Affermage**1 lease contract(s), 4-2. Other lease contract(s), 5. Concession contract(s), 6. Build, (own,) operate & transfer (BOOT, BOT) contract(s), 7. Full private sector ownership and operation, 8. Other type of public private partnership (PPP) including amalgamation contract].		Not at all
1st			
1st	Note: **1 - Under an affermage contract, a private company is paid a fee (referred to as the "operator's water supply rate" or sometimes the "operator's tariff"), which is the price (usually expressed per m ³) for the volume of water produced and sold that the operator requires to cover all the costs of running the system. This price is the parameter that the bidders compete on. The operator's payment is calculated according to a formula set out in the affermage contract, which may contain factors designed to reward performance in certain areas. The operator collects revenue from consumers on behalf of the government according to the tariffs set by the state, retains the amount of their fee, and remits the difference to the government, who uses the balance to pay for investments made by the public authority.		
2nd	Q9-1: Are there any fixed assets (water supply facilities, etc.) which your utility uses but does not own? [Yes or No]		No
2nd	Q9-2: If Yes, please specify these assets and their owners.		-
2nd	Q9-3: If Yes, is your utility responsible for including the depreciation of these fixed assets in your utility's financial statement or cost recovery calculations? Please describe how your utility handles and reports the depreciation costs of those fixed assets that are utilised by the utility but owned by others.		-

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2nd	Q10-1: Is your utility responsible for the following aspects of water supply, and how does your utility implement them?	1-1) Capital investment for water source development, including construction of intake and raw water transmission facilities [1. Yes, responsible and undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not responsible]	Yes, responsible but receive external funding.
2nd	Q10-2: If your answer is "3. No", which organization is responsible for these aspects?	1-2) Capital investment for major water supply facilities including purification plants, pump stations, treated water transmission and distribution trunk mains for major service area expansions, major rehabilitation, etc. [1. Yes, responsible undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not responsible]	-
2nd		1-3) Capital investment for distribution branch mains and house connections for major service area expansions, major rehabilitation, etc. [1. Yes, responsible and undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not responsible]	Yes, responsible but receive external funding.
2nd		2-1) O&M for production for your utility [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	Yes, responsible and do not outsource it.
2nd		2-2) O&M for production for other utilities (bulk supply) [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	No, not responsible
2nd		2-3) O&M of distribution systems other than pipe installation and replacement [1. Yes and do not outsource it, 2. Yes, but outsource it, 3. No]	No

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

	2nd		2-4) Small scale daily replacement/extension of distribution branch mains and installation/replacement of house connections [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	No, not responsible
	2nd		2-5) Leak detection and repair [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	Yes, responsible and do not outsource it.
	2nd		3-1) Reading of customer meters [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	No, not responsible
	2nd		3-2) Billing & collection [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	Yes, responsible and do not outsource it.
	2nd		4-1) If your utility is responsible for other work, please specify and describe how it is undertaken.	–
	2nd	Q11-1: Has there been any sector/utility reform or significant change affecting your utility's institutional form, responsibility or organizational structure in recent years? [Yes or No]		No
	2nd	Q11-2: If Yes, please describe the reform or significant changes and explain how your utility has been dealing with the transition.		–
Reports and databases	1st	Q12-1: Does your utility prepare an annual report? [Yes or No]		No
	1st	Q12-2: If Yes, in which year was the latest annual report prepared?		–
	1st	Q13-1: Does your utility have a Master Development Plan? [Yes or No]		Yes

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	1st	Q13-2: If Yes, when was it prepared?		2015-17
	1st	Q13-3: If Yes, what is the target year of the master plan?		2015-2040
	1st	Q14: Are the following aspects of the water utility's operation computerized or automated?	1) Document management [Yes or No]	No
	1st		2) Asset/facility management [Yes or No]	No
	2nd		3) Pumping [Yes or No]	No
	2nd		4) Treatment [Yes or No]	No
	2nd		5) Billing/customer management [Yes or No]	Yes
	2nd		6) Accounting [Yes or No]	No
	2nd		7) Complaints management [Yes or No]	Yes
	2nd		8) Personnel systems [Yes or No]	No
	2nd		9) Other, please specify.	–
Service area	1st		Q15-1: Which areas is the utility responsible for? [1. Only a principal city or town, 2. Multiple cities or towns, 3. Region, state or province, 4. Nation, 5. Other]	
	1st	Q15-2: If 2. Multiple cities or towns, how many cities or towns are under its responsibility?		–
	1st	Q15-3: If 5. Other, please describe.		–
	1st	Q16: What is the nature of the service areas? [1. Urban, 2. Semi-urban, 3. Rural, 4. Urban, semi-urban and rural, 5. Urban and semi-urban, 6. Semi-urban and rural]		Urban
	1st	Q17: What is the population served with piped water supply ('000 inhabitants) (same		1.21 million

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		as IBD_30 of LPI)	
	2nd	Q18: Size of present service areas (square km)	584 Sq kilometer
	2nd	Q19: Number of piped water supply connections ('000 connections)	1) Domestic (households) 72467
	2nd		2) Non domestic (industrial, commercial, institutional, other) Commercial 4042 Government 159 Industrial 65
	2nd		3) Bulk water connections No
	2nd		4) Total (same as IBD_41 of LPI) 76733
	2nd	Q20: Please calculate the average population provided with piped water supply per town or city (= [Q17] / [Q15-2]) ('000 inhabitants/town or city)	-
	2nd	Q21: Please calculate average household size of served population (= [Q17] / [Q19-1]) (persons/domestic connection)	-
Facilities	1st	Q22: Which of the following are sources of raw water?	1) Bulk water from another utility/company [Yes or No] No
	1st		2) Storage reservoir/impoundment, [Yes or No] -
	1st		3) Direct abstraction of river water [Yes or No] -
	1st		4) Groundwater and river bed water [Yes or No] -
	1st		5) Other, please specify Ground water only
	2nd	Q23-1: Which methods of treatment are used in your utility? [1. Disinfection but not filtration and flocculation, 2. Disinfection and filtration but not flocculation, 3. Disinfection, filtration and flocculation, 4. Other] Disinfection but not filtration and flocculation	

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		Disinfection, filtration and flocculation, 4. Other]	
	2nd	Q23-2: If "4. Other", please specify.	-

Utility Basic Checklist (UBC) for Water Works Entity						
Category			Project Type	Priority	Question	Answer
Large	Medium	Small				
Aspects to be improved mainly by Facility Investment (FI)	Overall		FI/CD	1st	Q1: Existence of long or mid-term plan for facility expansion, rehabilitation, etc.	Yes (WASA Master Plan 2015-40)
			FI/CD	1st	Q2: Continuity of supply	06 hours a day (Morning, Evening and noon)
	Expansion	Water supply service coverage	FI	1st	Q3: Overall water supply coverage (IBI_1.1)**1	55% population
			FI/CD	1st	Q4: Water supply coverage for low income groups	-
		Sewerage service coverage	FI	1st	Q5: Sewerage coverage (IBI_2.1)**18	65%
		Purification plant	FI	1st	Q6: Surplus purification capacity OI_2)**2	-
	Wastewater Treatment Plant	FI	1st	Q7: Treatment ratio for generated wastewater	25%	

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	Rehabilitati on/replace ment	Conditions of facilities	FI	1st	Q8: Civil structures (such as basins and chambers in water purification plants)	-
			FI	1st	Q9: Transmission and distribution mains ^{**3}	-
			FI	1st	Q10: Service connections ^{**4}	-
			FI/CD	1st	Q11: Mechanical and electrical equipment ^{**5}	WASA Master Plan 2015-40 Volume III and GIS Based survey report Volume III
			FI	1 st	Q12: Civil structures (such as basins and tanks in wastewater treatment plants)	-
			FI	1st	Q13: Condition of sewer pipe system	WASA Master Plan 2015-40 Volume III and GIS Based survey report Volume III
			FI	1 st	Q14: Condition of drainage system	WASA Master Plan 2015-40 Volume III and GIS Based survey report Volume III
			FI/CD	1st	Q15: Mechanical and electrical equipment ^{**5}	
Aspects to be improved mainly by Capacity Development (CD)		Overall	CD	1st	Q16: O&M of the facilities	-
		Distribution network management	CD/FI	1st	Q17: Drawings of pipe facilities	GIS Based survey report Volume IV
			CD/FI	1st	Q18: Zoning of distribution network ^{**6}	Yes WASA Master Plan 2015-40 Volume II
			CD/FI	1st	Q19: Water pressure at customer meter points ^{**7}	NA
Aspects to be	Technical	NRW	CD/FI	1st	Q20: NRW ratio (IBI_6.1) ^{**8}	28.8%

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

improved mainly by Capacity Development (CD)	aspects	reduction	CD/FI	1st	Q21: Customer meters ^{**9}	No
			CD/FI	1st	Q22: Bulk meters ^{**10}	-
		Water quality control of drinking water	CD	1st	Q23: Water quality parameters tested at purification plants	-
			CD	1st	Q24: Drinkability of tap water ^{**11}	-
		O&M of sewer pipe network	CD	1st	Q25: Drawing of sewer pipe facilities	GIS Based survey report Volume IV
			CD	1st	Q26: Current condition of O&M sewer pipe network	WASA Master Plan 2015-40 Volume III
			CD	1st	Q27: Own ownership of Sewer pipeline O&M equipment	Yes
		Water quality control of wastewater	CD	1st	Q28: Water quality parameters tested at wastewater treatment plants	NA
	CD		1st	Q29: Periodical monitoring of large scale effluent	Yes	
	Non- technical aspects	Financial improvement	CD	1st	Q30: Cost recovery level (OI_4 is the same as IBI_24.1 if the utility provides water supply services only) ^{**12}	-
			CD	1st	Q31: Collection ratio (IBI_23.2) ^{**13}	-
			CD	1st	Q32: Budget allocation status	-
		Organizational development	CD	1st	Q33: Effective personnel management rules and regulations including incentives ^{**14}	Yes
			CD	1st	Q34: Implementation of training ^{**15}	Yes

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

		Public relations	CD	1st	Q35: Complaint handling	Yes
			CD	1st	Q36: Awareness-raising on NRW reduction, water saving, collection of water charges, etc. ^{**16}	<u>Yes</u>
Aspects to be improved mainly by Program Approach			CD/FI	1st	Q37: Laws and regulations covering the water sector ^{**17}	-

POINTS TO BE CONFIRMED AND NECESSARY DATA / INFORMATION FOR SEWERAGE AND DRAINAGE SECTOR

(TO: WASA-Multan and the related institutions)

In connection with "Data Collection Survey on Water Supply and Sewerage Sector of Pakistan", we would like to confirm with WASA Multan and the related institutions the following points in the inception meeting.

Points to be confirmed

December 2019

A. General information	
A1	Population in Multan WASA 2.2 Million Ask to give Statistic data of moving.
A2	Industry of Multan
A3	Geographical characteristics of Multan Plain/ Cup shaped (which is different from other major cities in Punjab) (Each and Every drop of sewage and rain water is disposed off with the help of Pumps)
A4	Basic information about water supply sector i) Total population in your WASA service area for water supply (2.2 Milliom) ii) Service population for water supply (1.21 million) iii) Service rate for water supply Tariff iv) Service hour for water supply (06 hours 2+2+2) v) Length of water supply pipeline (1448 Km) vi) Non-revenue water (%) (28.8 %) vii) Collection rate of water tariff -----
A5	Basic information about sewerage sector i) Total population in your WASA service area for sewerage (2.2 Milliom) ii) Sewage connection population (1.43 million) iii) Sewage connection rate ----- iv) Number of disposal stations / pumping stations for sewage / storm water (15 Disposal Stations & 10 Lift stations) v) Length of sewage pipeline 1774 KM vi) Length of storm drainage 155 Km
A6	Please list issues on water supply sector in your WASA (WASA Master Plan- Sec-6 Existing Water Supply Network)
A7	Please list issues on sewerage and storm drainage sector in your WASA (WASA Master Plan -Sec-12 Existing Sewerage System)

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A8	Please provide the number of staff for technical and non-technical both based on the budget and actual. The staff includes regular and contract, and men and women. Number of staff for technical and non-technical (regular + contract, men + women), for each budge base and actual base.																								
	<table border="1"> <thead> <tr> <th rowspan="2">BPS</th> <th colspan="2">Technical staff (men, women)</th> <th colspan="2">Non-technical staff (men, women)</th> </tr> <tr> <th>Budget base</th> <th>Actual base</th> <th>Budget base</th> <th>Actual base</th> </tr> </thead> <tbody> <tr> <td>BPS 1-10</td> <td>4</td> <td></td> <td>1595</td> <td>1209</td> </tr> <tr> <td>BPS 11-16</td> <td>75</td> <td>45</td> <td>240</td> <td>129</td> </tr> <tr> <td>BPS 17 or above</td> <td>32</td> <td>21</td> <td>40</td> <td>17</td> </tr> </tbody> </table>	BPS	Technical staff (men, women)		Non-technical staff (men, women)		Budget base	Actual base	Budget base	Actual base	BPS 1-10	4		1595	1209	BPS 11-16	75	45	240	129	BPS 17 or above	32	21	40	17
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BPS	Technical staff (women)	Non-technical staff (women)																							
BPS 1-10		5																							
BPS 11-16	3	7																							
BPS 17 or above	1	2																							
B. Status of overall sewer development programs																									
B1	Current situation of construction about three (3) wastewater treatment plants, Northern, Shan and Southern. (None of the three is constructed yet)																								
B2	Current situation of construction about seven (7) sewer water pumping stations, Northern, Zakinya Town, Jahangrabad, Fatima, Motorway, Canal Road and Shershah Road. (Only the Zakariya Town D/S is under consideration through funding from Govt. of Punjab)																								
B3	Current situation of construction about sewer channel and pipeline Jahangrabad pumping station to Southem wastewater treatment plant 20 km and Suraj Miani pumping station to existing wastewater treatment plant 2 km. (Suraj Miani pumping station to existing wastewater treatment plant 2 km channel has been constructed)																								
B4	Current situation of updating equipment about three (3) existing wastewater treatment plants, Suraj Miani, Kiri Jamandan and Veharu. (No equipment is upgraded yet)																								
C. Current status and issues of Sewer and rain water drainage																									
C1	Current population, domestic and industrial wastewater situation																								
C2	Existing facilities capacity 1) Wastewater flow rate of sewer channels and pipelines 2) Pumping rate of pumping stations 3) Construction Drawing 4) Technical specifications for all facilities and pumping equipment 5) Location, operation start year and etc. {(WASA Master Plan -Sec-12 Existing Sewerage System)}																								
C3	Existing cleaning equipment (jetting machine, vacuum track, excavator and etc.) situations 1) Number of registered equipment and each commissioning status 2) Technical specifications																								

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Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

	3) Operation start year	(WASA Brief dated 02-12-2019)
D. Current situation of WASA Multan		
D1	Content of the operations	
D2	Organization/ System	
D3	Staffing and level of the skill	
D4	Water and sewage fee structure and the toll collection system	
D5	Financial condition	
E. Activities of sewer development programs by donor organizations		
E1	Construction and/ or suppling equipment of wastewater treatment plant, pumping station sewer channel/ pipeline, cleaning machine/ equipment and etc. (The treatment plant on Northern side was constructed through funding from Asian Development Bank in 2007 to 2009)	
E2	Soft component activities (No specific Activity for WASA Multan)	

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

EDUCATIONAL BACKGROUND

Sr #	Name of post	Education criteria
1.	Assistant Director Admin	Master's Degree in HRM/ Public Administration/L.L.B
2.	Assistant Director Finance (Budget, Cash, Accounts, Expenses, Works, Pension & Payroll)	Member of professional accounting / financial body with 01-year of post-qualification experience. OR Master's degree in business, Finance, Accounts or commerce from a recognized institute with 03 years of post-qualification experience.
3.	Assistant Director Engg: / SDO	Bachelors in Civil / Electrical / Mechanical Engineering. Registered with PEC.
4.	Junior Research Officer	Master Degree in Chemical Technology / Chemistry, OR B.Sc (Engg:) Chemical from Recognized University and registered with PEC.

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

[Necessary Data / Information]

We have received information from you and relevant organizations; besides these, in this Project, we would like to collect these background data, estimated basis, calculation methods, and further detailed data. The following required data and information would be asked to WASA-M staff from our Project mission members individually; we would greatly appreciate if you could help for our members to acquire data/ information described below.

No.	Necessary Data / Information	Availability (Yes/No/Not Sure)	Source(s) / Title for Data Collection (or directly filling the figures)	Key Contact Person(s) & Phone Number / Remarks
F. For Sewer and drain planner				
F1	Detailed data and information of sewer mains and trunk sewers, such as pipe design calculation documents and profiles showing invert level, ground level, earth cover, etc., which are enable to evaluate the capacities to convey the present and future wastewater.	Yes	GIS based Survey report SECTION-9 GENERAL OVERVIEW OF EXISTING SEWERAGE SYSTEM	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
F2	Any sewer network plan to expand sewage service, which is prepared by WASA-M, if any.	Yes	Master Plan Volume III Sec-14 Proposed Sewerage System	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
F3	Data and information of Jahangrabad pumping station to Southern wastewater treatment plant, and Suraj Miani pumping station to existing wastewater treatment plant. Followings are main items. 1) Structure (width, typical sections, and slopes) 2) Water level and/or flow rate 3) Water quality.	Yes	Master Plan Volume III Sec-14 Proposed Sewerage System	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
F4	Current situation of existing pumping stations. Data and information of existing pumping stations, Suraj Miani, Kiri Jamandan, Veharu and others. Followings are main items. 1) Capacity calculation for each pumping station 2) Drawings (General Layout Plan, P&ID, Single Line Diagram, Hydraulics, Layout plan and section, Trunk main profile) 3) Equipment List (Specification, Number, Installation year, Make, etc.,)	Yes	WASA Master Plan Volume III Sec-12 Existing Sewerage System); GIS Based Survey report Volume III Sec-11 Conditional Survey	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
G. For Wastewater treatment plant planner				
G1	Detailed and/ or Basic design calculation documents and drawings of three (3) WWTP.	Yes	Master Plan Report Volume III Sec-15 Sewage Treatment Plant	Engr. Muhammad Nadeem 00923334772168

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

No.	Necessary Data / Information	Availability (Yes/No/Not Sure)	Source(s) / Title for Data Collection (or directly filling the figures)	Key Contact Person(s) & Phone Number / Remarks
	1) Northern 2) Shan 3) Southern			Wasa_mln@yahoo.com
G2	Detailed and/ or Basic design calculation documents and drawings of seven (7) pumping stations. 1) Northern 2) Zakinya Town 3) Jahangrabad 4) Fatima 5) Motorway 6) Canal Road 7) Shershah Road	Yes	Master Plan Volume III Sec-14 Proposed Sewerage System	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
H. For Water quality and pollution load analysis specialist				
H1	Existing water quality of drains (last five years, especially for BOD, COD, SS, DO and Coliform) to three (3) existing pumping stations. 1) Suraj Miani 2) Kiri Jamandan 3) Veharu 4) Any other related information	Yes	GIS Based Survey report Volume III SECTION-10 STUDIES & INVESTIGATION OF EXISTING SEWERAGE SYSTEM	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
H2	Existing water quality of river water (last five years, especially for BOD, COD, SS, DO and Coliform) 1) Chenab River (before and after receiving the wastewater of PS / STP, if possible) 2) Discharging Water body without Chenab river (before and after receiving the wastewater of PS / STP, if possible) 3) Any other related information	YES	GIS Based Survey Report Volume II Sec-6 Studies and Investigations	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
H3	Existing data for flowrate (last five years, please provide the location map for flowrate measuring points) 1) Canals 2) Others	YES	GIS Based Survey Report Volume II Sec-6 Studies and Investigations	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
I. For Organization / management / institution specialist				
I1	Number of staffs of WASA-M in 2019 or latest date	Yes	Already Provided by admin	Mr. Mehboob Nazar

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

No.	Necessary Data / Information	Availability (Yes/No/Not Sure)	Source(s) / Title for Data Collection (or directly filling the figures)	Key Contact Person(s) & Phone Number / Remarks
			wing	
I2	Organization improvement plan of WASA-M (if any)	Yes	Vol-III Implementation Plan & Organizational Design WASA MLT	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
I3	Educational background of staffs of WASA-M	Yes	Already Provided by admin wing	Mr. Mehboob Nazar
I4	Capacity Development Plan or Training Plan of WASA-M staffs in 2018 and 2019 or latest date	No		
I5	Budget allocations for the annual training program in 2019 or latest date	No		
I6	Number of staffs who participated in foreign training program in last 3 years	No		
J. For Billing collection and customer relations specialist				
J1	The setting situation (setting number, setting plan) of the meter			
J2	Regime of the customer information(data base or paper)			
J3	The number of the staff water rate collection, customer management			
J4	Collection rate of water charge(% · value)			
J5	Price and consumption of domestic and commercial use (RWF, m ³ , average per month)			
J6	Collection frequency (month)			
J7	Describe the water tariff table			
J8	How to collection to water charge(How to meter reading)			
J9	Water tariff structure			
J10	Problem of collection			
J11	The prevalence of water tank (%)			
J12	Water tariff revision plan			
K. For Economic and financial specialist				
K1	Financial Statements of WASA-M, such as; 1) Balance Sheet 2) Profit and Loss Statement	Yes	WASA Multan Annual Budget	Mr. Muhammad Saeed 00923217879221

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

No.	Necessary Data / Information	Availability (Yes/No/Not Sure)	Source(s) / Title for Data Collection (or directly filling the figures)	Key Contact Person(s) & Phone Number / Remarks
	3) Surplus Statement 4) Cash Flow			
K2	Budget Statements (Requested, Approved, Actual)	Yes	WASA Multan Annual Budget	Mr. Muhammad Saeed 00923217879221
K3	Asset Inventory of WASA-M and Asset Management (Replacement) Plan			
K4	Any Financial and Economic Analysis of WASA-M, in particular, Audit Reports	Yes	Master Plan Volume III Sec-21-Business and Financial Plan	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
K5	Business, Investment, and Financial Plans	Yes	Master Plan Volume III Sec-21-Business and Financial Plan	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
L. For Environmental management officer				
L1	The state's/city's environmental related laws/regulations other than national laws/regulations			
L2	Outline (location / operation period / category of waste / capacity) of the waste disposal sites			
L3	Outline (location / related law / designated year / construction restriction / management authority) of the environmental protection sites in the city			
L4	Organization chart including environmental department/section(s)			
L5	Role of the environmental department/section(s)			
L6	Organization chart including waste disposal management department/section(s)			
L7	Role of the waste disposal management department/section(s)			
L8	General information about geographical characteristics, land use map in Multan			
L9	Any later version of Punjab Environmental Policy, 2015 (Draft) Punjab Environmental Protection (Amended) Act, 2012			

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

No.	Necessary Data / Information	Availability (Yes/No/Not Sure)	Source(s) / Title for Data Collection (or directly filling the figures)	Key Contact Person(s) & Phone Number / Remarks
	Punjab Environmental Quality Standards (PEQS), 2016 Punjab Urban Water Supply and Sanitation Policy, 2007 Punjab Drinking Water Policy, 2011			
M. For Social management officer				
M1	Outline (location / related law / designated year / construction restriction / management authority) of the historical/cultural/religious valued sites in the city			
M2	Population of ethnic groups/indigenous people			
M3	Location of ethnic groups/indigenous people habitats			
M4	Organization chart including PR/public awareness/environmental education department/section(s)			
M5	Role of the PR/public awareness/environmental education department/section(s)			
M6	Labor laws applied to workers			
M7	Water-borne disease records for 10 years			
M8	General information about socio-economic situation, geographical characteristics, demographics, industry in Multan			
N. For Land acquisition / Resettlement officer				
N1	The state's/city's land acquisition related laws/regulations other than national laws/regulations			
N2	The state's/city's resettlement related laws/regulations other than national laws/regulations			
O. For Operation and Maintenance specialist for pumping station				
O1	Date and information of existing pumping stations. 1) Current situation of equipment for each pumping stations 2) Operation method of each equipment, such as screens, pumps 3) Operation record of each equipment 4) Operation and maintenance organization, number of staffs for pumping stations 5) Operation and maintenance work descriptions, maintenance and inspection cycle for equipment 6) Suppliers of equipment and parts, domestic, import			

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

No.	Necessary Data / Information	Availability (Yes/No/Not Sure)	Source(s) / Title for Data Collection (or directly filling the figures)	Key Contact Person(s) & Phone Number / Remarks
	7) Fault/defect records for screens, pumps, electrical installations, instrumentation devices etc., 8) Power failure records, if any			
P. For Operation and Maintenance specialist for sewer and drain				
P1	Sewer cleaning organization 1) Organization chart of sewer cleaning 2) Number of offices and each office name 3) Number of staffs 4) Number of man power cleaning groups and each members 5) Number of machine cleaning groups and each members of drivers and workers 6) Number of owned sewer cleaning equipment High pressure washing vehicle Vacuum truck Bucket machine Transportation equipment such as trucks with crane, pickup trucks CCTV camera Safety equipment	Yes	WASA Presentation dated 02-12-2019	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
P2	Drainage cleaning organization 1) Organization chart of drainage cleaning 2) Number of offices and each office name 3) Number of staff and their roles 4) Number of owned drainage cleaning equipment Clamshell, backhoe etc. Transportation equipment such as dump truck	Yes	WASA Presentation dated 02-12-2019	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com
P3	Rainwater drainage organization 1) Organization chart of rainwater drainage Normal system and emergency system during monsoon 2) Number of owned equipment Towed drainage pump Power generator	Yes	WASA Presentation dated 02-12-2019	Engr. Muhammad Nadeem 00923334772168 Wasa_mln@yahoo.com

POINTS TO BE CONFIRMED AND NECESSARY DATA / INFORMATION FOR WATER SUPPLY SECTOR

(To: Haripur Public Health Engineering Department (PHED))

The following required data and information would be asked to PHED staff from our Project mission members individually, we would greatly appreciate if you could help for our members to acquire data/information described below.

November 2019

General information for water entity				
Category	Priority	Question	Answer	
Basic information	1st	Q1: Utility name	1) Full name	Public Health Engineering Department Khyber Pakhtunkhawa Province.
	1st		2) Acronym or abbreviated name	PHED
	1st	Q2: Head of water utility	1) Name	Mr. Bahramand Khan
	1st		2) Title	Secretary to Government of Khyber Pakhtunkhawa, Public Health Engineering Department Peshawar.
	2nd	Q3: Contact person	1) Name	Mr. Shahid Mehmood
	2nd		2) Title	Executive Engineer, Public Health Engineering Division Haripur.
	2nd		3) Email address	smswati@yahoo.com

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	2nd		4) Telephone	+92 995 610408, +92 300 5627727
	2nd		5) Fax	+92 995 610408
	2nd		6) Mailing address	xenphcharipur@gmail.com
	2nd	Q4: In which year was your utility established?		
	2nd	Q5: In which month does the fiscal year start in your utility?	July, every year.	
Utility type and responsibilities	1st	Q6: Does your utility provide the following services?	1) Piped water supply services [Yes or No]	Yes
	1st		2) Wastewater services [Yes or No]	Yes
	1st		3) Storm water drainage [Yes or No]	Yes
	1st		4) Solid waste services [Yes or No]	Yes
	1st		5) Other, please specify.	
1st	Q7: What type of utility is it?	1. National government water department (e.g. part of a ministry) - not ring fenced (i.e. financial information for water/wastewater functions is not reported separately from other government activities); 2. Local government water department (e.g. part of a municipality) - not ring fenced (see 1.); 3. National government water department (e.g. part of a ministry) - ring fenced (i.e. financial information for water/wastewater functions are reported separately from other government activities); 4. Local government water department (e.g.	PHED is working under the domain of Provincial Government of Khyber Pakhtunkhawa province. Provision of safe drinking water and sanitation facilities to the rural areas of the KP province is the responsibility of PHE department. Funds for the on-going approved developmental projects as well as for the maintenance & repair of the completed facilities are provided by the Provincial Government of KP	

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Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

		part of a municipality - ring fenced (see 3.); 5. Provider wholly owned by local or national government, operating under commercial law; 6. Jointly owned provider (Government and Private) operating under commercial law; 7. Not-for-profit provider operating under commercial law; 8. Privately owned provider operating under commercial law. Note: Generally, the further down the list, the higher the flexibility of management and necessity for governance of the utility.	
1st	Q8: To what extent is the private sector involved in your utility? Please choose up to 3 from the following: [1. Not at all, 2. Service contract(s), 3. Management contract(s), 4-1. Affermage**1 lease contract(s), 4-2. Other lease contract(s), 5. Concession contract(s), 6. Build, (own,) operate & transfer (BOOT, BOT) contract(s), 7. Full private sector ownership and operation, 8. Other type of public private partnership (PPP) including amalgamation contract].		1 i-e not at all.
1st			
1st	Note: **1 - Under an affermage contract, a private company is paid a fee (referred to as the "operator's water supply rate" or sometimes the "operator's tariff"), which is the price (usually expressed per m ³) for the volume of water produced and sold that the operator requires to cover all the costs of running the system. This price is the parameter that the bidders compete on. The operator's payment is calculated according to a formula set out in the affermage contract, which may contain factors designed to reward performance in certain areas. The operator collects revenue from consumers on behalf of the government according to the tariffs set by the state, retains the amount of their fee, and remits the difference to the government, who uses the balance to pay for investments made by the public authority.		

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

2nd	Q9-1: Are there any fixed assets (water supply facilities, etc.) which your utility uses but does not own? [Yes or No]		No.
2nd	Q9-2: If Yes, please specify these assets and their owners.		
2nd	Q9-3: If Yes, is your utility responsible for including the depreciation of these fixed assets in your utility's financial statement or cost recovery calculations? Please describe how your utility handles and reports the depreciation costs of those fixed assets that are utilised by the utility but owned by others.		
2nd	Q10-1: Is your utility responsible for the following aspects of water supply, and how does your utility implement them?	1-1) Capital investment for water source development, including construction of intake and raw water transmission facilities [1. Yes, responsible and undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not responsible]	2. Yes, responsible and undertakes but receive external funding. <i>Note: external funding may be either from the Provincial Government through ADP program or through Donor agencies.</i>
2nd	Q10-2: If your answer is "3. No", which organization is responsible for these aspects?	1-2) Capital investment for major water supply facilities including purification plants, pump stations, treated water transmission and distribution trunk mains for major service area expansions, major rehabilitation, etc. [1. Yes, responsible undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not responsible]	2. Yes, responsible but receive external funding
2nd		1-3) Capital investment for distribution branch mains and house connections for major service area expansions, major rehabilitation, etc. [1. Yes, responsible and undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not	2. Yes, responsible but receive external funding

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

			responsible]	
	2nd		2-1) O&M for production for your utility [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	1. Yes, responsible and do not outsource it
	2nd		2-2) O&M for production for other utilities (bulk supply) [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	1. Yes, responsible and do not outsource it
	2nd		2-3) O&M of distribution systems other than pipe installation and replacement [1. Yes and do not outsource it, 2. Yes, but outsource it, 3. No]	1. Yes, responsible and do not outsource it
	2nd		2-4) Small scale daily replacement/extension of distribution branch mains and installation/replacement of house connections [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	1. Yes, responsible and do not outsource it
	2nd		2-5) Leak detection and repair [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	1. Yes, responsible and do not outsource it
	2nd		3-1) Reading of customer meters [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	1. Yes, responsible and do not outsource it

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

			responsible]	
	2nd		3-2) Billing & collection [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	1. Yes, responsible and do not outsource it
	2nd		4-1) If your utility is responsible for other work, please specify and describe how it is undertaken.	Further works, if any is undertaken, without outsourcing it
	2nd		Q11-1: Has there been any sector/utility reform or significant change affecting your utility's institutional form, responsibility or organizational structure in recent years? [Yes or No]	No
	2nd		Q11-2: If Yes, please describe the reform or significant changes and explain how your utility has been dealing with the transition.	
Reports and databases	1st		Q12-1: Does your utility prepare an annual report? [Yes or No]	Yes
	1st		Q12-2: If Yes, in which year was the latest annual report prepared?	On end of every fiscal year, reports are generated like total number of projects undertaken, number of projects completed, amount of revenue collected against the targets, funds released and funds utilized.
	1st		Q13-1: Does your utility have a Master Development Plan? [Yes or No]	Yes
	1st		Q13-2: If Yes, when was it prepared?	During the year 2017.
	1st		Q13-3: If Yes, what is the target year of the master plan?	2030, if required funds are made available.
	1st		Q14: Are the following	1) Document management [Yes or No]

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

	1st	aspects of the water utility's operation computerized or automated?	2) Asset/facility management [Yes or No]	Yes
	2nd		3) Pumping [Yes or No]	Yes
	2nd		4) Treatment [Yes or No]	Yes
	2nd		5) Billing/customer management [Yes or No]	Yes
	2nd		6) Accounting [Yes or No]	Yes
	2nd		7) Complaints management [Yes or No]	Yes (through citizen portal)
	2nd		8) Personnel systems [Yes or No]	Yes (through HR database)
	2nd		9) Other, please specify.	
Service area	1st	Q15-1: Which areas is the utility responsible for? [1. Only a principal city or town, 2. Multiple cities or towns, 3. Region, state or province, 4. Nation, 5. Other]		Rural Areas of KP Province. In Hariipur PHED has so far executed 250 pumping, 53 gravity projects (total 303 projects)
	1st	Q15-2: If 2. Multiple cities or towns, how many cities or towns are under its responsibility?		-
	1st	Q15-3: If 5. Other, please describe.		-
	1st	Q16: What is the nature of the service areas? [1. Urban, 2. Semi-urban, 3. Rural, 4. Urban, semi-urban and rural, 5. Urban and semi-urban, 6. Semi-urban and rural]		Rural areas. However in urban areas of KP province, water supply facilities are mostly executed by the PHE Department and later on handed over to TMAs for operation & maintenance.
	1st	Q17: What is the population served with piped water supply ('000 inhabitants) (same as IBD_30 of LPI)		644861 persons.

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	2nd	Q18: Size of present service areas (square km)		
	2nd	Q19: Number of piped water supply connections ('000 connections)	1) Domestic (households)	46304
	2nd		2) Non domestic (industrial, commercial, institutional, other)	-
	2nd		3) Bulk water connections	-
	2nd		4) Total (same as IBD_41 of LPI)	
	2nd	Q20: Please calculate the average population provided with piped water supply per town or city (= [Q17] / [Q15-2]) ('000 inhabitants/town or city)		2128.25 inhabitants/village
	2nd	Q21: Please calculate average household size of served population (= [Q17] / [Q19-1]) (persons/domestic connection)		13.92 persons/connection
Facilities	1st	Q22: Which of the following are sources of raw water?	1) Bulk water from another utility/company [Yes or No]	No
	1st		2) Storage reservoir/impoundment, [Yes or No]	No
	1st		3) Direct abstraction of river water [Yes or No]	No
	1st		4) Groundwater and river bed water [Yes or No]	Yes
	1st		5) Other, please specify	
	2nd	Q23-1: Which methods of treatment are used in your utility? [1. Disinfection but not filtration and flocculation, 2. Disinfection and		

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		filtration but not flocculation, 3. Disinfection, filtration and flocculation, 4. Other]	
	2nd	Q23-2: If "4. Other", please specify.	No treatment for ground water, while infiltration galleries for surface based projects is adopted.

Utility Basic Checklist (UBC) for Water Works Entity							
Category			Project Type	Priority	Question	Answer	Answer selection
Large	Medium	Small					
Aspects to be improved mainly by Facility Investment (FI)	Overall		FI/CD	1st	Q1: Existence of long or mid-term plan for facility expansion, rehabilitation, etc.	Master plan is available	4 (Good)
			FI/CD	1st	Q2: Continuity of supply	1~2 hours per day	3 (Not Good Enough)
	Expansion	Water supply service coverage	FI	1st	Q3: Overall water supply coverage (IBI_1.1)**1	71.7%	3 (Not Good Enough)
			FI/CD	1st	Q4: Water supply coverage for low income groups	same as Q3	3 (Not Good Enough)
		Purification plant	FI	1st	Q5: Surplus purification capacity OI_2)**2	We don't have filtration Plant	-
	Rehabilitation/replace ment	Conditions of facilities	FI	1st	Q6: Civil structures (such as basins and chambers in water purification plants)	Moderate to good	3 (Not Good Enough)
			FI	1st	Q7: Transmission and distribution mains**3	Moderate to good	3 (Not

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			FI	1st	Q8: Service connections**4	Moderate to good	5 (Very Good)
			FI/CD	1st	Q9: Mechanical and electrical equipment**5	Moderate to good	3 (Not Good Enough)
Aspects to be improved mainly by Capacity Development (CD)	Overall	CD	1st	Q10: O&M of the facilities	Yes	1 (Very Serious)	
		Distribution network management	CD/FI	1st	Q11: Drawings of pipe facilities	Yes	2 (Serious)
			CD/FI	1st	Q12: Zoning of distribution network**6	Yes	3 (Not Good Enough)
			CD/FI	1st	Q13: Water pressure at customer meter points**7	Yes, Min 30 ft	3 (Not Good Enough)
Aspects to be improved mainly by Capacity Development (CD)	Technical aspects	NRW reduction	CD/FI	1st	Q14: NRW ratio (IBI_6.1)**8	10 – 20 %	4 (Good)
			CD/FI	1st	Q15: Customer meters**9	There is no meter	1 (Very Serious)
			CD/FI	1st	Q16: Bulk meters**10	Yes	1 (Very Serious)
	Water quality control	CD	1st	Q17: Water quality parameters tested at purification plants	Yes	3 (Not Good Enough)	
		CD	1st	Q18: Drinkability of tap water**11	Yes	4 (Good)	
	Non-technical aspects	Financial improvement	CD	1st	Q19: Cost recovery level (OI_4 is the same as IBI_24.1 if the utility provides water supply services only)**12	We can charge consumers only on provincial rules	-
CD			1st	Q20: Collection ratio (IBI_23.2)**13	95 % approximately	5 (Very Good)	

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	Organizational development	CD	1st	Q21: Effective personnel management rules and regulations including incentives ^{**14}	Government rules are in vogue, there is no incentive scheme.	2 (Serious)
		CD	1st	Q22: Implementation of training ^{**15}	Through own department (outsourcing)	3 (Not Good Enough)
	Public relations	CD	1st	Q23: Complaint handling	Through Pakistan Citizen Portal	5 (Very Good)
		CD	1st	Q24: Awareness-raising on NRW reduction, water saving, collection of water charges, etc. ^{**16}	Yes, through media and Friday sermon (before praying, community discuss)	2 (Serious)
Aspects to be improved mainly by Program Approach	CD/FI	1st	Q25: Laws and regulations covering the water sector ^{**17}	PHED has certain acts called water act	4 (Good)	
	FI	1st	Q26: Sewerage coverage (IBI_2.1) ^{**18}	There is no sewerage system	-	

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Points to be confirmed and Necessary Data / Information

FOR WATER SUPPLY SECTOR

(TO: Haripur Public Health Engineering Department (PHED) and the related institutions)

In connection with “Data Collection Survey on Water Supply and Sewerage Sector of Pakistan”, we would like to confirm with Haripur Public Health Engineering Department (PHED) and the related institutions the following points in the inception meeting.

Points to be confirmed

December 2019

A. Confirmation about socio-economic situation, geographical characteristics, demographics, industry in Haripur		
A1	Population, Industry, Geographical characteristics, Socio-economic change after construction of High way by CPEC (China-Pakistan Economic Corridor)	Answer) Socio-economic condition of the people of District Haripur is moderate. Haripur is located at prominent place with its boundaries touching Abbottabad in North, Swabi in West, and Islamabad in East & Hassan-Abdal in South. Population as per census report 2017 is about 1.03 million. The famous Hattar Industrial state lies in District Haripur, contributing to local manufacturing industry. A new economic zone is being constructed under CPEC which will further improve socio-economic conditions of local public.
B. Current situation and issues in the water supply (especially supply and demand situation, facility capacity) in Haripur		
B1	<ol style="list-style-type: none"> 1) Current population, supply and demand situation, facility capacity 2) Existing tube wells, reservoirs, distribution method from reservoirs including data of the amount of groundwater, annual fluctuation data of groundwater, and tube well locations that are no longer available. 3) Spring of Shah Maqsood and Chapra dam <ul style="list-style-type: none"> - Water quality data - Water volume data 4) Technical specifications <ul style="list-style-type: none"> - Construction Drawing - Technical specifications for all facilities and equipment 	Answer) <ol style="list-style-type: none"> 1) Attached below. 2) At the moment in urban area 31 tube wells are operational, with 8 number storage reservoirs. Supply is based on fixed hours not 24/7. 3) Attached. <ul style="list-style-type: none"> - From PHED own well and old age existing water works, flow measured and found 1.15 cusecs. 4) - Site plans of all the 16 villages proposed under gravity from Chapra Dam are available.

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		- Strata chart & conversion chart is also available for the installed tube wells.
C. Operations and organizational structure of water utilities of Haripur, allocation of staffs with the precaution which must be taken for the vacancies of management level, confirmation of technical level		
C1	<ol style="list-style-type: none"> 1) Organization chart 2) List of all staffs (name, date of birth, position, specialization, years of experience, education) 	Answer) <ol style="list-style-type: none"> 1. Organization chart is attached “QN-KP Province_ver00_191115-1” file. 2. List of all staffs is provided other sheet.
C2	Organization/ System - Appointment system, serving term, job record of the head of the organization - Organization control	
C3	Legal framework	
D. Activities about other donors		
D1	Recent activities of water supply programs in Haripur by donors such as WB, ADB, AIIB, AfD, DANIDA etc.	Answer) There is no activity of Donors in Haripur.

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Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

[Necessary Data / Information]

No.	Necessary Data / Information	Availability (Yes/No/Not Sure)	Source(s) / Title for Data Collection (or directly filling the figures)	Key Contact Person(s) & Phone Number / Remarks
E. For Economic and financial specialist				
E1	Financial Statements of Water supply in Haripur for the past three years, such as; 1) Balance Sheet 2) Profit and Loss Statement 3) Surplus Statement 4) Cash Flow			
E2	Budget Statements for the past three years (Requested, Approved, Actual)			
E3	Asset Inventory of Water supply in Haripur and Asset Management (Replacement) Plan			
E4	Any Financial and Economic Analysis of Water supply in Haripur, in particular, Audit Reports			
E5	The related information such as current tariff system and revision schedule if there is water and sewage tariff revision movement.			
E6	Business, Investment, and Financial Plans			
F. For Environmental management officer				
F1	The state's/city's environmental related laws/regulations other than national laws/regulations (such as; Environmental Policy, Environmental Protection Act, Environmental Quality Standards, Urban Water Supply and Sanitation Policy, Drinking Water Policy)			
F2	Outline (location / operation period / category of waste / capacity) of the waste disposal sites			
F3	Outline (location / related law / designated year / construction restriction / management authority) of the environmental protection sites in the city			
F4	Organization chart including environmental department/section(s)			
F5	Role of the environmental department/section(s)			
F6	Organization chart including waste disposal management department/section(s)			

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No.	Necessary Data / Information	Availability (Yes/No/Not Sure)	Source(s) / Title for Data Collection (or directly filling the figures)	Key Contact Person(s) & Phone Number / Remarks
F7	Role of the waste disposal management department/section(s)			
F8	General information about geographical characteristics, land use map in Haripur			
G. For Social management officer				
G1	Outline (location / related law / designated year / construction restriction / management authority) of the historical/cultural/religious valued sites in the city			
G2	Population of ethnic groups/indigenous people			
G3	Location of ethnic groups/indigenous people habitats			
G4	Organization chart including PR/public awareness/environmental education department/section(s)			
G5	Role of the PR/public awareness/environmental education department/section(s)			
G6	Labor laws applied to workers			
G7	Water-borne disease records for 10 years			
G8	General information about socio-economic situation, geographical characteristics, demographics, industry in Haripur			
G9	Approval of rights to the use of water (Shah Maqsood Spring / Chapra Dam)			
H. For Land acquisition / Resettlement officer				
H1	The state's/city's land acquisition related laws/regulations other than national laws/regulations			
H2	The state's/city's resettlement related laws/regulations other than national laws/regulations			
H3	Organization chart including Land acquisition / Resettlement department/section(s)			
H4	Role of the Land acquisition / Resettlement department/section(s)			

Population & water demand

Year	Water Demand			
	Population	Water Demand		
		Gpd	m ³ /day	Cusec
2019	138700	2774000	12540	5.12
2029	180300	3606000	16300	6.52
2038	234000	4680000	21150	8.46



Government of Khyber Pakhtunkhwa
Water Quality Testing Laboratory
Public Health Engineering Circle Abbottabad

WATER QUALITY ANALYSIS REPORT

Report No.	WQR/H-413	Sampling date	10-09-2019
Client name	Ken Haripur	Sampling receipt date	10-09-2019
Client address	PHE Division Haripur	Temperature	31
Source	WSS Theda Chowa (Spring)	Date of analysis	10-09-2019
Location	Haripur	Reporting date	11-09-2019

Sr No	Water quality parameter	Unit	Permissible limit	Results
1.	Color	colorless	colorless	Unobjectionable
2.	Odor		Unobjectionable	Unobjectionable
3.	Taste		Unobjectionable	Unobjectionable
4.	Electrical conductivity	µS/cm	NGVS	91.0
5.	pH		6.5-8.5(WHO 2004)	8.1
6.	Turbidity	NTU	5 (WHO 2004)	1.5
MAJOR CHEMICAL PARAMETERS				
7.	Alkalinity	m.mol/L	NGVS	61.3
8.	Bicarbonates	ppm	NGVS	112.5
9.	Calcium	ppm	75 (WHO 2004)	29.4
10.	Carbonates	ppm	NGVS	56.2
11.	Chloride	ppm	250 (WHO 2004)	59.7
12.	Hardness	ppm	500 (WHO 2004)	187.5
13.	Magnesium	ppm	150 (WHO 2004)	71.4
14.	Potassium	ppm	12 (EC 1994)	0.62
15.	Sodium	ppm	200 (WHO 2004)	47.5
16.	Sulphate	ppm	250 (WHO 2004)	88.7
17.	TDS	ppm	1000 (WHO 2004)	641.8
MICROBIOLOGICAL PARAMETERS				
18.	Total Coliform	+ve/-ve	Ve (WHO 2004)	+ Ve (Numerous colonies found)
19.	Fecal Coliform	MPN/100 ml	Ve (WHO 2004)	+ Ve (8 No. colonies found)
20.	E. Coli	+ve/-ve	Ve (WHO 2004)	+ Ve

Result:- Not fit for drinking, high microbial contamination found which needs Chlorination.

Abbreviation:

NGVS: No Guideline Value Set

WHO: World Health Organization

TERMS AND CONDITIONS:

- The result of laboratory analysis reported by PHE (Water Quality Testing Laboratory) is verified as accurate and authentic only for the parameters tested. Analysis report is not valid for court use or business purpose. In case of any dispute in connection with authenticity of the report, the laboratory record of the analysis will be considered final.
- PHE (Water Quality Testing Laboratory) does not accept any responsibility regarding of sample collecting procedure if collected by the client.
- PHE (Water Quality Testing Laboratory) will not be responsible for loss or damage to samples in its possession for reason beyond its control.
- PHE (Water Quality Testing Laboratory) reserve the right to accept or reject samples without assigns any reason.

Lab: In charge: _____



WATER QUALITY ANALYSIS REPORT

Report No.	WQR/H-414	Sampling date	10-09-2019
Client name	Ken Haripur	Sampling receipt date	10-09-2019
Client address	PHE Division Haripur	Temperature	31
Source	MSS Chajra Dam	Date of analysis	10-09-2019
Location	Haripur	Reporting date	11-09-2019

Sl. No	Water quality parameter	Unit	Permissible limit	Results
1.	Color	colorless	colorless	colorless
2.	Odor	Undetectable	Undetectable	Undetectable
3.	Taste	Undetectable	Undetectable	Undetectable
4.	Electrical conductivity	µS/cm	NGVS	285
5.	pH		6.5-8.5(WHO 2004)	7.9
5.	Turbidity	NTU	5 (WHO 2004)	1.2
MAJOR CHEMICAL PARAMETERS				
7.	Alkalinity	mmol/L	NGVS	34.7
8.	Bicarbonates	ppm	NGVS	48.3
9.	Calcium	ppm	75 (WHO 2004)	37.4
10.	Carbonates	ppm	NGVS	46.8
11.	Chloride	ppm	350 (WHO 2004)	74.5
12.	Hardness	ppm	500 (WHO 2004)	175
13.	Magnesium	ppm	150 (WHO 2004)	64.8
14.	Potassium	ppm	12 (EC 1994)	0.8
15.	Sodium	ppm	200 (WHO 2004)	37.4
16.	Sulfate	ppm	250 (WHO 2004)	65.2
17.	TDS	ppm	1000 (WHO 2004)	515
MICROBIOLOGICAL PARAMETERS				
18.	Total Coliform	+Ve/-Ve	-Ve (WHO 2004)	+ Ve (14 No colonies found)
19.	Fecal Coliform	MPN/100 ml	+Ve (WHO 2004)	+ Ve (5 No. colonies found)
20.	E. Coli	+Ve/-Ve	-Ve (WHO 2004)	+ Ve

Result:- Not fit for drinking, microbial contamination found.

Abbreviation:

NGVS: No Guideline Value Set

WHO: World Health Organization

TERMS AND CONDITIONS:

1. The result of laboratory analysis reported by PHE (Water Quality Testing Laboratory) is verified as accurate and authentic only for the parameters tested. Analysis report is not valid for court use or business purpose. In case of any dispute in connection with authenticity of the report, the laboratory record of the analysis will be considered final.
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4. PHE (Water Quality Testing Laboratory) reserve the right to accept or reject samples without assigns any reason.

Lab. in charge:-

POINTS TO BE CONFIRMED AND NECESSARY DATA / INFORMATION FOR WATER SUPPLY AND SEWERAGE SECTOR

(To: Karachi Water and Sewerage Board (KWSB))

The following required data and information would be asked to KWSB staff from our Project mission members individually, we would greatly appreciate if you could help for our members to acquire data/information described below.

December 2019

General information for water supply and sewerage entity				
Category	Priority	Question	Answer	
Basic information	1st	Q1: Utility name	1) Full name	Karachi Water and Sewerage Board
	1st		2) Acronym or abbreviated name	KWSB
	1st	Q2: Head of water utility	1) Name	Asadullah Khan
	1st		2) Title	Managing Director
	2nd	Q3: Contact person	1) Name	AMIR WAQAR
	2nd		2) Title	STAFF-OFFICER (TECHNICAL) TO MD, KWSB
	2nd		3) Email address	sawaqar31@yahoo.com
	2nd		4) Telephone	03645058041

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	2nd		5) Fax	021-99245154
	2nd		6) Mailing address	MD SECRETARIAT, BLOCK-C, 9 th MILE, KARSAZ, SHAHRA-E-FAISAL, KARACHI, PAKISTAN
	2nd	Q4: In which year was your utility established?		1983
	2nd	Q5: In which month does the fiscal year start in your utility?		1 st July
	Utility type and responsibilities	1st	Q6: Does your utility provide the following services?	1) Piped water supply services [Yes or No]
1st		2) Wastewater services [Yes or No]		Yes
1st		3) Stormwater drainage [Yes or No]		No
1st		4) Solid waste services [Yes or No]		No
1st		5) Other, please specify.		N.A
1st		Q7: What type of utility is it?	1. National government water department (e.g. part of a ministry) - not ring fenced (i.e. financial information for water/wastewater functions is not reported separately from other government activities); 2. Local government water department (e.g. part of a municipality) - not ring fenced (see 1.); 3. National government water department (e.g. part of a ministry) - ring fenced (i.e. financial information for water/wastewater functions are reported separately from other government activities); 4. Local government water department (e.g. part of a municipality - ring fenced (see 3.); 5. Provider wholly owned by local or national government,	Autonomous body, work under Local Government Department, KW&SB Act 1996.

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		operating under commercial law; 6. Jointly owned provider (Government and Private) operating under commercial law; 7. Not-for-profit provider operating under commercial law; 8. Privately owned provider operating under commercial law. Note: Generally, the further down the list, the higher the flexibility of management and necessity for governance of the utility.	
1st	Q8: To what extent is the private sector involved in your utility? Please choose up to 3 from the following: [1. Not at all, 2. Service contract(s), 3. Management contract(s), 4-1. Affermage**1 lease contract(s), 4-2. Other lease contract(s), 5. Concession contract(s), 6. Build, (own,) operate & transfer (BOOT, BOT) contract(s), 7. Full private sector ownership and operation, 8. Other type of public private partnership (PPP) including amalgamation contract].		2,3
1st			
1st	Note: **1 - Under an affermage contract, a private company is paid a fee (referred to as the "operator's water supply rate" or sometimes the "operator's tariff"), which is the price (usually expressed per m ³) for the volume of water produced and sold that the operator requires to cover all the costs of running the system. This price is the parameter that the bidders compete on. The operator's payment is calculated according to a formula set out in the affermage contract, which may contain factors designed to reward performance in certain areas. The operator collects revenue from consumers on behalf of the government according to the tariffs set by the state, retains the amount of their fee, and remits the difference to the government, who uses the balance to pay for investments made by the public authority.		
2nd	Q9-1: Are there any fixed assets (water supply facilities, etc.) which your utility uses but does not own? [Yes or No]		Yes
2nd	Q9-2: If Yes, please specify these assets and their owners.		Land

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2nd	Q9-3: If Yes, is your utility responsible for including the depreciation of these fixed assets in your utility's financial statement or cost recovery calculations? Please describe how your utility handles and reports the depreciation costs of those fixed assets that are utilised by the utility but owned by others.		
2nd	Q10-1: Is your utility responsible for the following aspects of water supply, and how does your utility implement them?	1-1) Capital investment for water source development, including construction of intake and raw water transmission facilities [1. Yes, responsible and undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not responsible]	Yes, receive external funding
2nd	Q10-2: If your answer is "3. No", which organization is responsible for these aspects?	1-2) Capital investment for major water supply facilities including purification plants, pump stations, treated water transmission and distribution trunk mains for major service area expansions, major rehabilitation, etc. [1. Yes, responsible undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not responsible]	Yes, responsible but receive external funding,
2nd		1-3) Capital investment for distribution branch mains and house connections for major service area expansions, major rehabilitation, etc. [1. Yes, responsible and undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not responsible]	Yes, responsible but receive external funding,
2nd		2-1) O&M for production for your utility [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	Yes, responsible but outsource it
2nd		2-2) O&M for production for other utilities (bulk supply) [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	No, not responsible

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	2nd		2-3) O&M of distribution systems other than pipe installation and replacement [1. Yes and do not outsource it, 2. Yes, but outsource it, 3. No]	Yes and do not outsource it,
	2nd		2-4) Small scale daily replacement/extension of distribution branch mains and installation/replacement of house connections [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	Yes, responsible and do not outsource it,
	2nd		2-5) Leak detection and repair [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	Yes, responsible but outsource it,
	2nd		3-1) Reading of customer meters [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	Yes, responsible and do not outsource it,
	2nd		3-2) Billing & collection [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	Yes, responsible and do not outsource it,
	2nd		4-1) If your utility is responsible for other work, please specify and describe how it is undertaken.	DEVELOPMENT WORKS
	2nd	Q11-1: Has there been any sector/utility reform or significant change affecting your utility's institutional form, responsibility or organizational structure in recent years? [Yes or No]		No
	2nd	Q11-2: If Yes, please describe the reform or significant changes and explain how your utility has been dealing with the transition.		N.A
Reports and	1st	Q12-1: Does your utility prepare an annual report? [Yes or No]		Yes

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databases	1st	Q12-2: If Yes, in which year was the latest annual report prepared?		2005 Audited Report available on web site of KWSB
	1st	Q13-1: Does your utility have a Master Development Plan? [Yes or No]		Yes
	1st	Q13-2: If Yes, when was it prepared?		2007 (JICA)
	1st	Q13-3: If Yes, what is the target year of the master plan?		2025
	1st	Q14: Are the following aspects of the water utility's operation computerized or automated?	1) Document management [Yes or No]	Yes
	1st		2) Asset/facility management [Yes or No]	Yes
	2nd		3) Pumping [Yes or No]	NO
	2nd		4) Treatment [Yes or No]	NO
	2nd		5) Billing/customer management [Yes or No]	Yes
	2nd		6) Accounting [Yes or No]	Yes
	2nd		7) Complaints management [Yes or No]	Yes
	2nd		8) Personnel systems [Yes or No]	Yes
	2nd		9) Other, please specify.	N.A
Service area	1st		Q15-1: Which areas is the utility responsible for? [1. Only a principal city or town, 2. Multiple cities or towns, 3. Region, state or province, 4. Nation, 5. Other]	
	1st	Q15-2: If 2. Multiple cities or towns, how many cities or towns are under its responsibility?		N.A
	1st	Q15-3: If 5. Other, please describe.		-

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	1st	Q16: What is the nature of the service areas? [1. Urban, 2. Semi-urban, 3. Rural, 4. Urban, semi-urban and rural, 5. Urban and semi-urban, 6. Semi-urban and rural]	Urban, Semi urban & rural		
	1st	Q17: What is the population served with piped water supply ('000 inhabitants) (same as IBD_30 of LPI)	Karachi is the largest city of Pakistan with a population estimated to be close to 20 million. Karachi Water & Sewerage Board (KWSB) is a service based consumer oriented organization responsible for production, transmission, treatment and distribution of potable water to the citizen of Karachi, managing sewerage system to ensure hygienic environment and collection of revenue for sustained economic viability.		
	2nd	Q18: Size of present service areas (square km)	The city spread over 3,527 km ² (1,362 sq mi) in area.		
	2nd	Q19: Number of piped water supply connections ('000 connections)	1) Domestic (households)	999,947	7,10,000
	2nd		2) Non domestic (industrial, commercial, institutional, other)	308,111	35,000
	2nd		3) Bulk water connections	3,686	9,491
	2nd		4) Total (same as IBD_41 of LPI)	1,311,744	7,54,491
	2nd	Q20: Please calculate the average population provided with piped water supply per town or city (= [Q17] / [Q15-2]) ('000 inhabitants/town or city)			

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	2nd	Q21: Please calculate average household size of served population (= [Q17] / [Q19-1]) (persons/domestic connection)		
Facilities	1st	Q22: Which of the following are sources of raw water?	1) Bulk water from another utility/company [Yes or No]	No
	1st		2) Storage reservoir/impoundment, [Yes or No]	Yes
	1st		3) Direct abstraction of river water [Yes or No]	Yes
	1st		4) Groundwater and river bed water [Yes or No]	No
	1st		5) Other, please specify	
	2nd	Q23-1: Which methods of treatment are used in your utility? [1. Disinfection but not filtration and flocculation, 2. Disinfection and filtration but not flocculation, 3. Disinfection, filtration and flocculation, 4. Other]	3	
2nd	Q23-2: If "4. Other", please specify.			

Utility Basic Checklist (UBC) for Water & Sewage Works Entity						
Category			Project Type	Priority	Question	Answer
Large	Medium	Small				
Aspects to be improved mainly by Facility Investment	Overall		FI/CD	1st	Q1: Existence of long or mid-term plan for facility expansion, rehabilitation, etc.	Yes (JICA Master Plan 2008-2025)
			FI/CD	1st	Q2: Continuity of supply	Bulk Water Supply: 24/7, 365 days Distribution: Intermittent; Different schedules for different areas.

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(FI)	Expansion	Water supply service coverage	FI	1st	Q3: Overall water supply coverage (IBI_1.1)**1	55 - 58% population
			FI/CD	1st	Q4: Water supply coverage for low income groups	09 – 11 %
		Sewerage service coverage	FI	1st	Q5: Sewerage coverage (IBI_2.1)**18	70 – 73 %
		Purification plant	FI	1st	Q6: Surplus purification capacity OI_2)**2	Not applicable
		Wastewater Treatment Plant	FI	1st	Q7: Treatment ratio for generated wastewater	NIL, Greater Karachi Sewerage Plan S-III project under implementation
	Rehabilitation/replace ment	Conditions of facilities	FI	1st	Q8: Civil structures (such as basins and chambers in water purification plants)	Water Filtration Capacity Enhancement Project under in hand
			FI	1st	Q9: Transmission and distribution mains**3	Deteriorated. Massive DNI Required
			FI	1st	Q10: Service connections**4	Not Applicable
			FI/CD	1st	Q11: Mechanical and electrical equipment**5	Average.
			FI	1st	Q12: Civil structures (such as basins and tanks in wastewater treatment plants)	Greater Karachi Sewerage Plan S-III project under implementation
			FI	1st	Q13: Condition of sewer pipe system	Deteriorated. Massive DNI Required
			FI	1st	Q14: Condition of drainage system	Not Applicable
	FI/CD	1st	Q15: Mechanical and electrical equipment**5	Running on low efficiency		
	Aspects to be improved mainly by	Overall	CD	1st	Q16: O&M of the facilities	No
			CD/FI	1st	Q17: Drawings of pipe facilities	GIS system up to 18" dia

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Capacity Development (CD)		network management	CD/FI	1st	Q18: Zoning of distribution network**6	No
			CD/FI	1st	Q19: Water pressure at customer meter points**7	Not Applicable
Aspects to be improved mainly by Capacity Development(CD)	Technical aspects	NRW reduction	CD/FI	1st	Q20: NRW ratio (IBI_6.1)**8	44 – 46 %
			CD/FI	1st	Q21: Customer meters**9	No
			CD/FI	1st	Q22: Bulk meters**10	Yes
		Water quality control of drinking water	CD	1st	Q23: Water quality parameters tested at purification plants	Yes, labs are operative
			CD	1st	Q24: Drinkability of tap water**11	Not fit for drinking purpose for areas located at distance from filter plants
		O&M of sewer pipe network	CD	1st	Q25: Drawing of sewer pipe facilities	Not available
			CD	1st	Q26: Current condition of O&M sewer pipe network	Poor, Requires massive rehabilitation
			CD	1st	Q27: Own ownership of Sewer pipeline O&M equipment	Yes
		Water quality control of wastewater	CD	1st	Q28: Water quality parameters tested at wastewater treatment plants	NA
	CD		1st	Q29: Periodical monitoring of large scale effluent	No	
	Non-technical aspects	Financial improvement	CD	1st	Q30: Cost recovery level (OI_4 is the same as IBI_24.1 if the utility provides water supply services only)**12	-
			CD	1st	Q31: Collection ratio (IBI_23.2)**13	-

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			CD	1st	Q32: Budget allocation status	KW&SB Budget 2019-2020
		Organizational development	CD	1st	Q33: Effective personnel management rules and regulations including incentives ^{**14}	Yes
			CD	1st	Q34: Implementation of training ^{**15}	Ineffective
		Public relations	CD	1st	Q35: Complaint handling	Yes
			CD	1st	Q36: Awareness-raising on NRW reduction, water saving, collection of water charges, etc. ^{**16}	No
Aspects to be improved mainly by Program Approach			CD/FI	1st	Q37: Laws and regulations covering the water sector ^{**17}	KW&SB ACT

Notes of the Table

Note:

****1:** Overall water supply coverage = (Population served)/(Population within responsible area of the utility)*100 or (Number of households served)/(Number of households within responsible area of the utility)*100

If responsible areas are not clearly understood, please assume the areas where the water utility will hold responsibility in the foreseeable future. The population served includes those who have direct water supply, yard taps and public taps/standpipes

****2:** Surplus purification capacity = ((Daily treatment capacity - Maximum daily treatment capacity) / Daily treatment capacity) * 100 (unit: %). The daily treatment capacity (m³/day) is the volume of water per day purified in the current purification plant. The capacity of failed facilities and those under repair facilities is excluded. The maximum daily treatment capacity (m³/day) is the recorded maximum volume of water per day supplied by the plant in a year.

****3:** An example of expected lifetime of water mains is 50 years.

****4:** Expected lifetime of house connections can be 25 years or more if using corrosion-resistant materials.

****5:** Examples of expected lifetime of mechanical/electrical equipment and instruments are 20 years and 15 years respectively.

****6:** Proper zoning and sub-zoning of distribution networks is a basic requirement for good pressure control, effective reduction of NRW, etc. The concept of zoning and sub-zoning is explained in (2) *Supporting Figures and Table*.

****7:** Conversion table for different units of pressure is shown in (2) *Supporting Figures and Table*

****8:** NRW (Non-Revenue Water) ratio = (1-(Annual water charged)/(annual water produced))*100

If all the bulk meters necessary for this calculation are not installed, estimation of this average NRW ratio can be carried out based on some data of NRW in some areas. The difference between NRW and UFW (Unaccounted for Water) is explained in (2) *Supporting Figures and Table*.

****10:** Recommended calibration intervals for bulk flow meters are 5 years for wheel/mechanical type and 1 year for electromagnetic and ultrasonic types. The size of district meter area (DMA) is recommended to be about 1000 - 3000 households

****11:** Key water quality parameters are assumed to be residual chlorine, turbidity, colour, odour, taste, toxic matter and coliform count. Coverage of testing parameters and standards for water quality criteria can refer to the WHO standards if country-specific water quality standards have not been established.

****12:** This assessment should be based on financial statements. The supporting financial indicators for judging the level of cost recovery are shown in (2) *Supporting Figures and Table*.

****13:** Billing customers and collecting revenue are two different things. The effectiveness of the collections process is measured by this indicator, while NRW ratio (Q14) is based on amount billed and water production. $\text{Collection ratio} = (\text{Collected revenue at the end of fiscal year}) / (\text{Annual amount billed}) * 100$

****14:** Personnel management rules and regulations include: 1) working regulations, 2) base salary system, 3) incentive schemes, and 4) occupational health and safety regulations.

****15:** Training programs are required for engineers, technicians, administration staff, managers, etc.

****16:** Public awareness can be enhanced through: 1) general public relations & publicity, 2) special promotional programs, 3) monitoring research, 4) painting/writing contests, 5) school education, etc.

****17:** Laws and regulations include: 1) water supply service act, 2) independent "double-entry bookkeeping" accounting requirement for the water utility, 3) water supply service ordinances, 4) regulations related to water intake, including groundwater regulations, 5) labour standards act, 6) road traffic act, etc

****18:** It is assumed that sewerage development does not usually commence until GDP per capita reaches about US\$3,000; and becomes full-scale at a GDP per capita of about US\$5,000. It is highly possibility that sewerage is minimally developed in the countries and suburban cities where economic levels are low. It is recommended that the water utility explain the level of sanitary facility (toilet) coverage, particularly if it has answered the question on sewerage coverage as level 1(0%) or level 2 (5% or less).

POINTS TO BE CONFIRMED AND NECESSARY DATA / INFORMATION FOR SEWERAGE AND DRAINAGE SECTOR

(TO: KWSB and the related institutions)

In connection with "Data Collection Survey on Water Supply and Sewerage Sector of Pakistan", we would like to confirm with KWSB and the related institutions the following points in the inception meeting.

Points to be confirmed

December 2019

A. Implementation situation of Master plan prepared by JICA study team in 2008		
A1	Which are already solved and which need further measures to be taken? (Since in the 2008's JICA study, the recommendations were made for improving the water and sewerage systems in Karachi.) If there is no progress at all, what is the reason?	There is no progress on the recommendations due to heavy work load and our emergency nature of work.
B. Confirmation of water supply and sewerage facility maintenance plan and maintenance situation in Karachi		
B1	The list of necessary and priority facilities of water supply and sewerage.	<p>Major installations include 8 Water Purification Plants, 12 No. Bulk Water Pumping Stations, 157 Distribution Pumping Station, 3 No. STPs, 21 Sewage Lifting Stations, 36 Sewer Cleaning Jetting and Suction machines etc.</p> <ol style="list-style-type: none"> The federal Government allocates water quota for the provinces. The share of each province is fixed through a Commission. No direct involvement of Federal Government in Water & Sewerage affairs of Karachi. Under the 18th Amendment of the Constitution of Pakistan, it's now a provincial subject. Provincial Governments are independent in making policy decisions regarding water supply & sewerage plans and schemes. Projects upto certain limits are domain of provincial government otherwise ECNEC approves the Project of entire country upto the limit of Rs. 10 Bn and above as per Planning Commission guidelines. Yes, under Land Acquisition Act , Government can take over the possession of any parcel of land from the private entity for public use in national interest.
B2	The development plans by personal, donor and private fund. In particular, confirm as much as possible the current progress and outline of the K-IV project started by the Pakistani government budget after the JICA's study and the "Karachi Water and Sewerage Services Improvement Project" also planned after JICA's study by co-financing of AIIB and WB.	Ambitious Sindh-Federal K-IV water project, launched in 2007 to address Karachi's acute water shortage. The project, scheduled for completion in 2018 , seems at least two to three years behind schedule. Upon completion, it is expected to supply about 650 million gallons of water per day to Karachi which currently receives only about 500 million gallons a day against its daily requirement of 1.1

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	If these projects are delayed, what is the reason?	<p>billion gallons. The water would be supplied from Thatta district's Keenjhar Lake via a 121-kilometre canal.</p> <p>The alarming aspect of the project's construction, however, is that, despite the purported completion of 70 % of the canal, the National Engineering Services Pakistan (NESPAK) has said that there were still alignment problems with the canal which may need to be corrected. This despite the conduct of appropriate feasibility studies at the project's inception as well as repeated subsequent project design and alignment changes! And there is more by way of ineptitude. Much of the land for the project has still not been acquired, the electricity network to operate the filtration plants has not been fully installed, and pipelines to transport clean water to Karachi have not been laid.</p>
C. Confirmation of organizational structure, staffing, and technical level of KWSB		
C1	The current of structural reform and vacancy of directors and engineers.	Government of Sindh each year allocates budget under Annual Development Programme for various sectors (Details available on official website of P&D Department).
C2	The responsibilities and roles of the upper organization and KWSB in the decision-making process related to the budget.	Details available on official website of P&D Department or Finance Department , Government of Sindh.
C3	Organization/ System - Appointment system, serving term, job record of the head of the organization - Organization control	KWSB follow Services Rules, duly approved by the GOS. The serving term is not fixed , however the age of retirement is 60 years. Promotion depends on the seniority cum fitness basis subject to the availability of vacant vacancies.
C4	Legal framework	KW&SB Act 1996.
C5	The details of capacity enhancement plan in the "Karachi Water and Sewerage Services Improvement Project", a co-financing project between AIIB and WB, such as program, scope, content of project, actual situation, issues, etc. If there is no progress at all, what is the reason?	<p>The KWSSIP is a \$1.6 billion project in which World Bank share is 40 percent and 40 percent funds will be provided by Asian Infrastructure Investment Bank and the provincial government will pay 20 percent. There are four components of four phases of the project. The component one is about reforms, second of securing sustainable water supply and sanitation and third component is about project management and studies.</p> <p>Under the project, the water board would be made financially stable after institutional reforms. WB's board of directors had given approval for the first phase of the project in June. The federal government has also approved KWSSIP in the Executive Committee of National Economic Council (Ecnec).</p> <p>In the first phase of the project, the water board would have institutional reforms and certain measures for the KWSB would be taken.</p> <p>KWSB and the GoS are committed to reforms and have made significant initial steps. An exemplary step has been the reform of the tanker-truck business that</p>

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		supplies more than 10 percent of residents. Under pressure from civil society and the Supreme Court, the GoS empowered KWSB in 2016- 7 to close down all illegal water hydrants (more than 100) supplying water to tankers, either from illegal connections to the KWSB water network or from contaminated groundwater. KWSB established six legal water hydrants and outsourced their operation. Tankers using these hydrants require a KWSB license, and must prominently display the KWSB phone number and water tariffs. Installation of meters and outsourcing have drastically increased hydrant revenues, which was a major achievement against strong financial interests from groups profiting from illegal and unregulated tankers. Hydrant revenues increased from PKR 79 million in FY15 to PKR 356 million in FY17. Preliminary data for FY18 shows a further increase to PKR 658 million. KWSB took further steps to improve services by establishing a centralized Tanker Request Center and launching a mobile application (OTS KW&SB) to make it possible to order a tanker by mobile phone. These reforms demonstrate the current political will to improve KWSB performance
D. Confirmation of Water and sewage tariff system, tariff collection system, financial situation of KWSB		
D1	The related information such as current tariff system and revision schedule if there is water and sewage tariff revision movement.	Current Tariff structure is available on KWSB official web-site. The GoS has authorized the Board for annual increase @ 9% in Tariff.
D2	As for the financial status, income and expenditure for the past three years.	Available on KWSB official web-site.
E1	What is the actual situation of water use for drinking and domestic water by residents? How do residents use properly about KWSB water supply, digging well and bottled water?	<p>The water crisis in Karachi seems to be getting worse day by day with no immediate solution in sight. Currently the city requires 1,100 million gallons of water per day (MGD) and faces a shortage of 700MGD.</p> <p>The city has two sources of water supply, Hub Dam and Keenjhar Lake. Of these, the supply from Hub Dam, of 100MGD, has come to complete halt as the dam stands empty due to the lack of rainfall in Karachi in the last three years. Hub Dam primarily supplied water to district West. Now, the city depends on the water Keenjhar Lake that is distributed via Dhabeji pumping station. The Dhabeji pumping station supplies 450MGD, but by the time it reaches the city it is reduced to 400MGD as it is either stolen or lost in leakages. Various areas that were earlier supplied water every 15 to 20 days, now do not receive water for more than a month.</p>
E2	What is the impact of the following items on water and sewage project?	Water Mafia: Due to the significant gap between supply and demand of water to

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	<ul style="list-style-type: none"> •Vested interests in water supply like water mafia •Trade friction between the US and China •BREXIT •The Hormuz Strait Problem •IMF Program 	<p>Karachi, the water utilities are badly abused and NRW has increased as water pilferage has amplified. KW&SB remains alert and every now and then initiate anti-theft drives to curb the illegitimate drawl of water from its system. However, the miscreants have converted into mafia, damaging the water lines to illegally operate and sell the water to the deficit pockets on much higher rates, specially the industries, who are in dire need of water to run their day to day operations and productions.</p> <p>Trade Friction Between the US and China: There is no direct or indirect involvement of Governments of US or China with KW&SB or any of its projects, as such there is no impact of any trade friction among the countries on water and sewerage related projects.</p> <p>BREXIT: No impact</p> <p>The Hormuz Strait Problem: No apparent impact</p> <p>IMF Program: Don't know, but since KW&SB has no direct affiliation to IMF program, there may not be any impression on IMF policies on water and sewerage projects.</p>
E3	<p>What is the impact of the following items on water and sewage project?</p> <ul style="list-style-type: none"> •The control of the House was flipped between Karachi city and Sindh state •The control of the House was flipped between Sindh state and central government •Local election in 2020 	<p>Water and Sewerage services are municipal issues and anywhere in the developed countries having proper and efficient utility services are operated or managed by the respective local authorities. Delegation of powers to the grass route level with no political interference is the key to make the organizational setup and functions more reliable and accountable for improved level of services. The department shall work independently insulating from all alien political wills and gains to make it a sustainable organization. The water management at upstream is required to meet the water demand of Karachi which has the priority being at the lowest riparian on Indus and the domestic use of water is the topmost priority on any other water usage.</p> <p>The rift between the political parties has a direct impact on the change of preference. Generally, affiliation of the winning candidate to a political party affects the entire scenario and mainly all the politics are based on the access to safe drinking water being the basic necessity and right of the citizens and better sewerage facilitates in their area of command. Both the utilities are exploited pressuring the organization to bring the isolated development within their constituency.</p>

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		<p>Whosoever is the ruling party or in majority has the benefit because of easy access to the public funds. The water and sewerage schemes are executed without any master planning to bring improvement in the entire network. KW&SB financial health is gloomy, in such dwindling circumstances the department is dependent on the financial support from the government to execute even the low cost projects through Annual Development Program (ADP) of GoS.</p> <p>Its obvious that the control of the house has a direct impact on water and sewerage projects. No mega project can be implemented without the support either from GoS, GoP or both.</p> <p>KW&SB despite being the autonomous body due to its financial position is dependent on the GoS and GoP and is unable even to meet its O&M expenditures to run the operations smoothly.</p>
E4	What is your request for Japanese technologies? For example, micro tunneling - technology for pipeline is useful for installing under heavy traffic road.	<p>There is always a possibility to opt for a modular technology which is economically and technically viable. Detailed feasibility will however will be required to explore the prospect under the prevailing conditions to determine which technology provides the best value of monies and is technically acceptable. Trenchless technologies, rehabilitation of the existing system through internal lining, selection of pipes all requires transfer of the technology and not just restricted to supply of the piping system. Knowledge transmission and capacity building should go side by side while adopting any integrated solutions.</p>

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

[Necessary Data / Information]

We have received various data and information in the previous survey by JICA in 2006 from you and relevant organizations; besides these, in this Project, we would like to collect updated data. The following required data and information would be asked to KWSB staff from our Project mission members individually; we would greatly appreciate if you could help for our members to acquire data/ information described below.

No.	Necessary Data / Information	Availability (Yes/No/Not Sure)	Source(s) / Title for Data Collection (or directly filling the figures)	Key Contact Person(s) & Phone Number / Remarks
G. For Organization / management / institution / human resource specialist				
G1	1) Organization chart 2) List of staff (name, date of birth, position, specialization, years of experience, education)	Yes	HRD&A Department KW&SB	DMD (HRD&A), KW&SB Refer Official Website of KW&SB
H. For Economic and financial specialist				
H1	Financial Statements of KWSB for the past three years, such as; 1) Balance Sheet 2) Profit and Loss Statement 3) Surplus Statement 4) Cash Flow	Yes	Finance Department KW&SB	DMD Finance, KW&SB Refer Official Website of KW&SB
H2	Budget Statements for the past three years (Requested, Approved, Actual)	Yes	<p>Requested (in millions): 2016-17 Rs16,713.574 2017-18 Rs16,541.812 2018-19 Rs17,622.134</p> <p>Approved (in millions): 2016-17 Rs16,529.765 2017-18 Rs16,426.812 2018-19 Rs16,793.029</p> <p>Actual (in millions): 2016-17 Rs13,496.065 2017-18 Rs12,953.120 2018-19 Rs14,432.402</p> <p>Note: All figures exclusive of retire funds and pension expenditures.</p>	Budget Officer
H3	Asset Inventory of KWSB and Asset Management (Replacement) Plan	Yes	Director (Land & Estate) KW&SB	Director (Land & Estate), KW&SB

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No.	Necessary Data / Information	Availability (Yes/No/Not Sure)	Source(s) / Title for Data Collection (or directly filling the figures)	Key Contact Person(s) & Phone Number / Remarks
H4	Any Financial and Economic Analysis of KWSB, in particular, Audit Reports	Yes	Finance Department KW&SB	DMD Finance, KW&SB
H5	The related information such as current tariff system and revision schedule if there is water and sewage tariff revision movement.	Yes	RRG Department KW&SB	DMD (RRG), KW&SB
H6	Business, Investment, and Financial Plans	Yes	Planning Department KW&SB	DMD (Planning), KW&SB
I. For Environmental management officer				
I1	The state's/city's environmental related laws/regulations other than national laws/regulations	Yes	Sindh Environment Protection Agency, GOS	Director General, SEPA
I2	Outline (location / operation period / category of waste / capacity) of the waste disposal sites	Yes	Sindh Solid Waste Management, GOS	Director General, SSWM
I3	Outline (location / related law / designated year / construction restriction / management authority) of the environmental protection sites in the city	Yes	Sindh Environment Protection Agency, GOS	Director General, SEPA
I4	Organization chart including environmental department/section(s)	Yes	Sindh Environment Protection Agency, GOS	Director General, SEPA
I5	Role of the environmental department/section(s)	Yes	Sindh Environment Protection Agency, GOS	Director General, SEPA
I6	Organization chart including waste disposal management department/section(s)	Yes	Sindh Solid Waste Management, GOS	Director General, SSWM
I7	Role of the waste disposal management department/section(s)	Yes	Sindh Solid Waste Management, GOS	Director General, SSWM
I8	General information about geographical characteristics, land use map in Karachi	Yes	Sindh Board of Revenue/ Sindh Building Control Authority	Director General, SBR, SBCA
J. For Social management officer				
J1	Outline (location / related law / designated year / construction restriction / management authority) of the historical/cultural/religious valued sites in the city	Yes	Archology Department, GOS	
J2	Population of ethnic groups/indigenous people	Not Sure		
J3	Location of ethnic groups/indigenous people habitats	Not Sure		
J4	Organization chart including PR/public awareness/environmental education department/section(s)	Yes	Sindh Environment Protection Agency, GOS	Director General, SEPA
J5	Role of the PR/public awareness/environmental education department/section(s)	Yes	Sindh Environment Protection Agency, GOS	Director General, SEPA
J6	Labor laws applied to workers	Yes		
J7	Water-borne disease records for 10 years	Yes	Agha Khan University &	

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No.	Necessary Data / Information	Availability (Yes/No/Not Sure)	Source(s) / Title for Data Collection (or directly filling the figures)	Key Contact Person(s) & Phone Number / Remarks
			Hospital	
J8	General information about socio-economic situation, geographical characteristics, demographics, industry in Karachi	Yes	Industries Department, GOS	Secretary, Industries, GOS
J9	Approval of rights to the use of water sources	Yes	Indus River System Authority, GOS	Chairman, KW&SB
K. For Land acquisition / Resettlement officer				
K1	The state's/city's land acquisition related laws/regulations other than national laws/regulations	Yes	Sindh Environment Protection Agency, GOS	Director General, SEPA
K2	The state's/city's resettlement related laws/regulations other than national laws/regulations	Yes	Sindh Board of Revenue, GOS	Director General, SBR

- Respective website of the Departments can be referred for contact details.

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**POINTS TO BE CONFIRMED AND NECESSARY DATA / INFORMATION
FOR WATER SUPPLY AND SEWERAGE SECTOR**

(TO: Development & Planning Department, Sindh Province)

In connection with “Data Collection Survey on Water Supply and Sewerage Sector of Pakistan”, we would like to confirm with Development & Planning Department, Sindh Province the following points.

Points to be confirmed

December 2019

A. Organization		
A1	Human affairs - How to appoint Governor and term of Governor - How to appoint the head of Department - How to appoint the management level of WASA	We do not have the post of the Governor The Head of Department of KW&SB is Managing Director appointed by Government of Sindh, either from KW&SB or outside the Department any Government official in BPS-20.
A2	Organization control - The organization chart, the prescribed number of personnel and fulfillment of vacancies of both the whole state government and the Department. - The post of officer in charge of contact to water supply and sewerage sector of the municipality:	12,000 employees in different categories. Method of recruitment is well defined as per prescribed criteria of Services Rules 1987. The Dy. Managing Director (Technical Services) is the incharge of all technical affairs related to water & sewerage services.
A3	Environmental issues - The agencies to grant permission for state or municipal government to proceed the project in terms of infrastructure for the benefit of public and the procedure of applying and issuing the permission	Sindh Environment Protection Agency deals with all environment related issues within the province of Sindh.
A4	Demographic statistic - The agency in charge of demographic statistics - Are there any legal stipulations for conducting the nationwide survey? If yes, the copy of relevant papers	Survey of Pakistan is the concerned Department for nationwide survey.

POINTS TO BE CONFIRMED AND NECESSARY DATA / INFORMATION FOR WATER SUPPLY AND SEWERAGE SECTOR

(To: WASA – Lahore and related institutions)

The following required data and information would be asked to WASA-Lahore and related institutions staff from our Project mission members individually, we would greatly appreciate if you could help for our members to acquire data/information described below.

December 2019

General information for water supply and sewerage entity				
Category	Priority	Question	Answer	
Basic information	1st	Q1: Utility name	1) Full name	Water & Sanitation Agency, Lahore
	1st		2) Acronym or abbreviated name	WASA
	1st	Q2: Head of water utility	1) Name	Syed Zahid Aziz
	1st		2) Title	Managing Director
	2nd	Q3: Contact person	1) Name	Farhat Ali
	2nd		2) Title	PS to Managing Director
	2nd		3) Email address	pstomdwasa@yahoo.com
	2nd		4) Telephone	99263142-43
	2nd		5) Fax	99263147

	2nd		6) Mailing address	Zahoor Elahi Road, Near Main Market, B-Block, Gulberg-II, Lahore
	2nd	Q4: In which year was your utility established?		1976
	2nd	Q5: In which month does the fiscal year start in your utility?		July
Utility type and responsibilities	1st	Q6: Does your utility provide the following services?	1) Piped water supply services [Yes or No]	Yes
	1st		2) Wastewater services [Yes or No]	Yes
	1st		3) Stormwater drainage [Yes or No]	Yes
	1st		4) Solid waste services [Yes or No]	No (relates with LWMC)
	1st		5) Other, please specify.	-
	1st	Q7: What type of utility is it?	1. National government water department (e.g. part of a ministry) - not ring fenced (i.e. financial information for water/wastewater functions is not reported separately from other government activities); 2. Local government water department (e.g. part of a municipality) - not ring fenced (see 1.); 3. National government water department (e.g. part of a ministry) - ring fenced (i.e. financial information for water/wastewater functions are reported separately from other government activities); 4. Local government water department (e.g. part of a municipality - ring fenced (see 3.); 5. Provider wholly owned by local or national government, operating under commercial law; 6. Jointly owned provider (Government and Private) operating under commercial law;	Autonomous Body-comes under Lahore Development Authority (LDA).

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

		7. Not-for-profit provider operating under commercial law; 8. Privately owned provider operating under commercial law. Note: Generally, the further down the list, the higher the flexibility of management and necessity for governance of the utility.	
1st	Q8: To what extent is the private sector involved in your utility? Please choose up to 3 from the following: [1. Not at all, 2. Service contract(s), 3. Management contract(s), 4-1. Affermage**1 lease contract(s), 4-2. Other lease contract(s), 5. Concession contract(s), 6. Build, (own,) operate & transfer (BOOT, BOT) contract(s), 7. Full private sector ownership and operation, 8. Other type of public private partnership (PPP) including amalgamation contract].		Service Contract
1st			
1st	Note: **1 - Under an affermage contract, a private company is paid a fee (referred to as the "operator's water supply rate" or sometimes the "operator's tariff"), which is the price (usually expressed per m ³) for the volume of water produced and sold that the operator requires to cover all the costs of running the system. This price is the parameter that the bidders compete on. The operator's payment is calculated according to a formula set out in the affermage contract, which may contain factors designed to reward performance in certain areas. The operator collects revenue from consumers on behalf of the government according to the tariffs set by the state, retains the amount of their fee, and remits the difference to the government, who uses the balance to pay for investments made by the public authority.		
2nd	Q9-1: Are there any fixed assets (water supply facilities, etc.) which your utility uses but does not own? [Yes or No]		Yes
2nd	Q9-2: If Yes, please specify these assets and their owners.		Land where tubewells and buildings of WASA exist
2nd	Q9-3: If Yes, is your utility responsible for including the depreciation of these fixed assets in your utility's financial statement or cost recovery calculations? Please describe how your utility handles and reports the depreciation costs of those fixed		No

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		assets that are utilised by the utility but owned by others.	
2nd	Q10-1: Is your utility responsible for the following aspects of water supply, and how does your utility implement them?	1-1) Capital investment for water source development, including construction of intake and raw water transmission facilities [1. Yes, responsible and undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not responsible]	Currently no surface water treatment plant/raw water intake exists in WASA for water supply. However, WASA is currently operating & managing its groundwater resources.
2nd	Q10-2: If your answer is "3. No", which organization is responsible for these aspects?	1-2) Capital investment for major water supply facilities including purification plants, pump stations, treated water transmission and distribution trunk mains for major service area expansions, major rehabilitation, etc. [1. Yes, responsible undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not responsible]	1.
2nd		1-3) Capital investment for distribution branch mains and house connections for major service area expansions, major rehabilitation, etc. [1. Yes, responsible and undertaken without external funding, 2. Yes, responsible but receive external funding, 3. No, not responsible]	1.
2nd		2-1) O&M for production for your utility [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	Partially outsource regarding tubewells
2nd		2-2) O&M for production for other utilities (bulk supply) [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	Partially outsource regarding tubewells
2nd		2-3) O&M of distribution systems other than pipe installation and replacement [1. Yes and do not outsource it,	1.

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			2. Yes, but outsource it, 3. No]	
	2nd		2-4) Small scale daily replacement/extension of distribution branch mains and installation/replacement of house connections [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	1.
	2nd		2-5) Leak detection and repair [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	1.
	2nd		3-1) Reading of customer meters [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	1.
	2nd		3-2) Billing & collection [1. Yes, responsible and do not outsource it, 2. Yes, responsible but outsource it, 3. No, not responsible]	2.
	2nd		4-1) If your utility is responsible for other work, please specify and describe how it is undertaken.	O&M of sewerage and drainage system
	2nd	Q11-1: Has there been any sector/utility reform or significant change affecting your utility's institutional form, responsibility or organizational structure in recent years? [Yes or No]		Yes
	2nd	Q11-2: If Yes, please describe the reform or significant changes and explain how your utility has been dealing with the transition.		Human Resource Management Information System (HRMIS) has been developed for institutional strength but is at initial stage.
Reports and databases	1st	Q12-1: Does your utility prepare an annual report? [Yes or No]		Yes WASA prepares development and

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				non-development budget annually, procurement plan etc. Updation of asset management information system throughout the year
	1st	Q12-2: If Yes, in which year was the latest annual report prepared?		2019-20
	1st	Q13-1: Does your utility have a Master Development Plan? [Yes or No]		Yes
	1st	Q13-2: If Yes, when was it prepared?		2018
	1st	Q13-3: If Yes, what is the target year of the master plan?		2040
	1st	Q14: Are the following aspects of the water utility's operation computerized or automated?	1) Document management [Yes or No]	Partially
	1st		2) Asset/facility management [Yes or No]	Yes
	2nd		3) Pumping [Yes or No]	Yes
	2nd		4) Treatment [Yes or No]	No
	2nd		5) Billing/customer management [Yes or No]	Yes
	2nd		6) Accounting [Yes or No]	Partially
	2nd		7) Complaints management [Yes or No]	Yes
	2nd		8) Personnel systems [Yes or No]	Partially
	2nd		9) Other, please specify.	-
Service area	1st	Q15-1: Which areas is the utility responsible for? [1. Only a principal city or town, 2.		1.

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		Multiple cities or towns, 3. Region, state or province, 4. Nation, 5. Other]		
	1st	Q15-2: If 2. Multiple cities or towns, how many cities or towns are under its responsibility?		-
	1st	Q15-3: If 5. Other, please describe.		-
	1st	Q16: What is the nature of the service areas? [1. Urban, 2. Semi-urban, 3. Rural, 4. Urban, semi-urban and rural, 5. Urban and semi-urban, 6. Semi-urban and rural]		5.
	1st	Q17: What is the population served with piped water supply ('000 inhabitants) (same as IBD_30 of LPI)		7.7 Million
	2nd	Q18: Size of present service areas (square km)		350
	2nd	Q19: Number of piped water supply connections ('000 connections)	1) Domestic (households)	687,388
	2nd		2) Non domestic (industrial, commercial, institutional, other)	50,000
	2nd		3) Bulk water connections	-
	2nd		4) Total (same as IBD_41 of LPI)	737,388
	2nd	Q20: Please calculate the average population provided with piped water supply per town or city (= [Q17] / [Q15-2]) ('000 inhabitants/town or city)		7.7 Million
	2nd	Q21: Please calculate average household size of served population (= [Q17] / [Q19-1]) (persons/domestic connection)		08 persons/domestic connection
Facilities	1st	Q22: Which of the following are sources	1) Bulk water from another utility/company [Yes or No]	No
	1st		2) Storage reservoir/impoundment, [Yes or No]	No

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	1st	of raw water?	3) Direct abstraction of river water [Yes or No]	No
	1st		4) Groundwater and river bed water [Yes or No]	Only groundwater
	1st		5) Other, please specify	-
	2nd	Q23-1: Which methods of treatment are used in your utility? [1. Disinfection but not filtration and flocculation, 2. Disinfection and filtration but not flocculation, 3. Disinfection, filtration and flocculation, 4. Other]		1.
	2nd	Q23-2: If "4. Other", please specify.		-

Utility Basic Checklist (UBC) for Water Works Entity						
Category			Project Type	Priority	Question	Answer
Large	Medium	Small				
Aspects to be improved mainly by Facility Investment (FI)	Overall		FI/CD	1st	Q1: Existence of long or mid-term plan for facility expansion, rehabilitation, etc.	Yes
			FI/CD	1st	Q2: Continuity of supply	No (Intermittent supply)
	Expansion	Water supply service coverage	FI	1st	Q3: Overall water supply coverage (IBI_1.1)**1	Yes
			FI/CD	1st	Q4: Water supply coverage for low income groups	Yes

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	Sewerage service coverage	FI	1 st	Q5: Sewerage coverage (IBI_2.1)**18	Yes	
		Purification plant	FI	1 st	Q6: Surplus purification capacity (OI_2)**2	No
		Wastewater Treatment Plant	FI	1 st	Q7: Treatment ratio for generated wastewater	No
	Rehabilitation/replace ment	Conditions of facilities	FI	1 st	Q8: Civil structures (such as basins and chambers in water purification plants)	No
			FI	1 st	Q9: Transmission and distribution mains**3	Yes
			FI	1 st	Q10: Service connections**4	Yes
			FI/CD	1 st	Q11: Mechanical and electrical equipment**5	Yes
			FI	1 st	Q12: Civil structures (such as basins and tanks in wastewater treatment plants)	No (Disposal/pumping stations exists)
			FI	1 st	Q13: Condition of sewer pipe system	Yes
FI			1 st	Q14: Condition of drainage system	Yes	
FI/CD	1 st	Q15: Mechanical and electrical equipment**5	Yes			
Aspects to be improved mainly by Capacity Development (CD)	Overall	CD	1 st	Q16: O&M of the facilities	Yes	
		Distribution network management	CD/FI	1 st	Q17: Drawings of pipe facilities	Yes
			CD/FI	1 st	Q18: Zoning of distribution network**6	Yes
			CD/FI	1 st	Q19: Water pressure at customer meter points**7	Yes
Aspects to be	Technical	NRW	CD/FI	1 st	Q20: NRW ratio (IBI_6.1)**8	Yes

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improved mainly by Capacity Development (CD)	aspects	reduction	CD/FI	1 st	Q21: Customer meters**9	Yes
			CD/FI	1 st	Q22: Bulk meters**10	Yes
		Water quality control of drinking water	CD	1 st	Q23: Water quality parameters tested at purification plants	Yes (Filtration plants)
			CD	1 st	Q24: Drinkability of tap water**11	Yes
		O&M of sewer pipe network	CD	1 st	Q25: Drawing of sewer pipe facilities	Yes
			CD	1 st	Q26: Current condition of O&M sewer pipe network	Yes
			CD	1 st	Q27: Own ownership of Sewer pipeline O&M equipment	Yes
	Water quality control of wastewater	CD	1 st	Q28: Water quality parameters tested at wastewater treatment plants	No wastewater treatment plants	
		CD	1 st	Q29: Periodical monitoring of large scale effluent	No	
	Non-technical aspects	Financial improvement	CD	1 st	Q30: Cost recovery level (OI_4 is the same as IBI_24.1 if the utility provides water supply services only)**12	Yes
			CD	1 st	Q31: Collection ratio (IBI_23.2)**13	Yes
			CD	1 st	Q32: Budget allocation status	Yes
		Organizational development	CD	1 st	Q33: Effective personnel management rules and regulations including incentives**14	Yes
			CD	1 st	Q34: Implementation of training**15	Yes

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		Public relations	CD	1st	Q35: Complaint handling	<u>Yes</u>
			CD	1st	Q36: Awareness-raising on NRW reduction, water saving, collection of water charges, etc. ^{**16}	Yes
Aspects to be improved mainly by Program Approach			CD/FI	1st	Q37: Laws and regulations covering the water sector ^{**17}	<u>Yes (Capacity development)</u>

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POINTS TO BE CONFIRMED AND NECESSARY DATA/INFORMATION FOR SEWERAGE AND DRAINAGE SECTOR

(TO: WASA –LAHORE and the related institutions)

In connections with "Data collection survey on water supply and sewerage sector of Pakistan", we would like to confirm with WASA Lahore and the related institutions the following points in the inception meeting.

[Points To Be Confirmed]

December 2019

A. General Information		
A1.	Basic information about water supply sector	
	i) Total population in your WASA services area for water supply	7.9 Million
	ii) Service population for water supply	7.7 Million
	iii) Service rate for water supply	Detail attached at F/A
	iv) Service hour for water supply	12 hours
	v) Length of water supply pipeline	5856 KM
	vi) Non-revenue water (%)	40-45 %
	vii) Collection rate of water tariff	92% efficiency
A2.	Basic information about sewerage sector	
	i) Total population in your WASA services area for sewerage	7.7 Million
	ii) Sewage connection population	7.7 Million
	iii) Sewage connection rate	PKR1,200/domestic/month, PKRx,xxx/commercial
	iv) Number of disposal stations/pumping stations for sewage/storm water	128 (13 Disposal St. and 111 Lift St., 4 Drainage St.)
	v) length of sewage pipeline	5302 KM
	vi) Length of storm drainage.	55 KM primary drains
A3.	Please list issues on water supply sector in your WASA.	<ul style="list-style-type: none"> • Non-metering (SCADA/Centralized System for Monitoring is required) • Zoning / Networking issues • Non-Revenue water including Technical losses • Ground water table depletion • Need of identification of alternate water sources etc.
A4.	Please list issues on sewerage and storm drainage sector in your WASA	<ul style="list-style-type: none"> • Outlived Sewerage System • Drains are being used as Sullage Carriers • Lack of trunk sewerage system in south Lahores • Lack of drainage machinery • Lack of expertise for innovations / Lack of training

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A5.	Please provide the number of staff for technical and non-technical both based on the budget and actual. The staff includes regular and contract and men and women				
	Number of staff for technical and non-technical (regular + contract, men +women) for each budget base and actual base.				
	BPS *basic pay scale	Technical Staff (men, women)		Non-Technical Staff (men, women)	
		Budget base	Actual base	Budget base	Actual base
	BPS 1-10	1106	1004	6037	5136
	BPS 11-16	250	175	775	566
	BPS 17 or above	193	185	136	85
A6.	Number of staff for technical and non-technical (regular+ contract, only women)				
	Number of staff for technical and non-technical (regular+ contract, men + women) for each budget base and actual base				
	BPS	Technical Staff (men, women)		Non-Technical Staff (men, women)	
		Budget base	Actual base	Budget base	Actual base
	BPS 1-10	01	1004	59	5136
	BPS 11-16	02	175	38	566
	BPS 17 or above	23	185	04	85
B. current situation of existing sewer channels					
B1	Main & Sub channels for 7 drainage bassins, Shadara, Mehmood Booti, Siddique Pura, Chotta Ravi, Central, Sattu Katla and Hudiara			Improvement is required in infrastructure as well as cleaning equipment.	
B2	Draining raw sewage from discharge station and/or industrial wastewater to channels			Yes raw sewage and industrial waste water is discharged into drains without treatment.(only a small percentage of industry has in house treatment facility)	
B3	Dumping rubbishes and wastes			Heavy quantity of rubbish and waste dumped regularly in drains by the public and Lahore Waste Management Company (LWMC) staff.	
B4	Environmental degradation and health hazard			Open drains / sullage carriers are causing the environmental degradation and health hazard.	
C. Inundation records and situation of damages					
C1	Monitoring data of inundation at monitoring site by WASA-L			Data is attached at (F/B)	
C2	Cross-section reducing points/sections of channel			Data is attached at (F/C)	

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D. Operation and maintenance for existing channels		
D1	Content of the operations	Manual cleaning for small drains and mechanical cleaning for primary drains. Repair of retaining walls and restoration of original sections.
D2	Organization/system	The work of drainage channels is divided into 08 sections which work under the Operation & Maintenance director. (Organizational chart including the number of permanent and temporary staff enclosed at F/D).
D3	Numbers and conditions of holding cleaning machine/equipment	The list of machinery with existing condition is attached at F/E.
D4	Disposal method of dredge soil, rubbishes, and wastes and linkage with competent authorities	The dredged soil, rubbishes and wastes are dumped at dumping sites of Lahore Waste Management Company as well as some open sites on Southern side of the city.
E. Status of overall sewer development programs in Lahore City		
E1	Planning of new wastewater treatment plants construction by AIIB, AfD and others.	A new trunk sewer line alongwith disposal pumping station for central part of the city is planned for near future with Trenchless Technology under the loan from Asian Infrastructure Investment Bank (AIIB).
F. Organization of WASA-Lahore		
F1	Organization system <ul style="list-style-type: none"> • Appointment system, serving term, job record of the head of the organization • Organization control 	Appointment of head of the organization is through selection by the Punjab government from senior staff of relevant field. The tenure is for 03 years. The organization is controlled by the Secretary of Government of the Punjab Province, Housing Urban Development & Public Health Engineering Department (HUD&PHED).
F2	Legal Framework	The WASA Lahore was created as an Agency of Lahore Development Authority (LDA) under LDA Act, 1975.

Data Collection Survey on Water Supply and Sewerage Sector of Pakistan

Necessary Data/Information

We have received various data and information in the previous "The Preparatory study on Lahore water supply, sewerage and drainage improvement project in Islamic Republic of Pakistan (2010)" from you and relevant organizations; besides these, in this project, we would like to collect these background data, estimated basis, calculation methods and further detailed data. The following required data and information would be asked to WASA-L staff from our Project mission members individually, we would greatly appreciate if you could help for our members to acquire data/information described below:

No.	Necessary Data/Information	Availability (Yes/No/Not sure)	Source (s)/Title for Data Collection (or directly filling the figures)	Key Contact Person (s) & Phone Number/Remarks
F1	Detailed data and information of sewer mains and trunk sewers, such as pipe design calculation documents and profiles showing invert level, ground level, earth cover, etc., which are enable to evaluate the capacities to convey the present and future wastewater	Yes	Directly filling the figures by Planning & Design Directorate, WASA.	Zeeshan Bilal 0333-3330193
F2	Any sewer network plan to expand sewage service, which is prepared by WASA-L, if any	Yes	There is an improvement plan for Southern Lahore including sewerage network as well as wastewater treatment.	Zeeshan Bilal 0333-3330193
F3	Data and information of pumping stations, Mehmood Booti, Siddique Pura, Chotta Ravi And Central to sewer channels. Followings are main items: <ol style="list-style-type: none"> 1. Structure (width, typical sections, and slopes 2. Water level and/or flow rate 3. Water quality. 	Yes	Data is available with WASA.	Aslam Khan Niazi 0322-4423052 Zeeshan Bilal 0333-3330193
G. For waste water treatment plant planner				
G1	Basic and/or detailed design calculation documents and drawings of six (6) WWTP by AIIB, AFD and others <ol style="list-style-type: none"> 1) Name of WWTP1 2) Name of WWTP2 3) Name of WWTP3 4) Name of WWTP4 		NESPAK is currently carrying out detailed design under ADP Schemes	

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	5) Name of WWTP5	Feasibility is planned in ADP FY 2019-20		
	6) Name of WWTP6			
H. For water quality and pollution load analysis specialist				
H1	Existing water quality of drains to six (6) planned WWTP (last five years, especially for BOD, COD, SS, DO and Coliform).	Yes	P&D Directorate, WASA	Zeeshan Bilal 0333-3330193
H2.	Existing water quality of river water (last five years, especially for BOD, COD, SS, DO and Coliform) 1) Name of some river x 2) Name of some drain x	Yes	P&D Directorate, WASA	Zeeshan Bilal 0333-3330193
H3	Existing data for flowrate (last five years, please provide the location map for flowrate measuring points) 1) Name of some river x 2) Name of some drain x	No	-	-
I. For organization/management/institution specialist				
11	Number of staffs of WASA-L in 2019 or latest date	Yes	Admin Directorate	Director Admin 042-99205580
12	Organization improvement plan of WASA-L (if any)	-	-	-
13	Educational background of staffs of WASA-L	Yes	Admin Directorate	Director Admin 042-99205580
14	Capacity development plan or training plan of WASA-L staffs in 2018 and 2019 or latest date	Yes	Annexure attached at F/F	Assistant Director/Focal Person Training Momena Saleem 0337-7802025
15	Budget allocation for the annual training program in 2019 or latest date	Yes	4.00 Million	
16	Number of staffs who participated in foreign training program in last 3 years.	Yes	48	
J. For Billing Collection and Customer relations specialist				
J1.	The setting situation (Setting Number, Setting Plan) of the meter.			Muhammad Siddique Electronic Database Process 0337-7800650
J2.	Regime of the customer information (Database or Paper)			
J3.	The number of the staff water rate collection, customer management	Yes	442	

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J4.	Collection Rate of water charge(% Value)	Yes	80%
J5.	Price & Consumption of Domestic and Commercial Use (RWF,m ³ , Average per month)	Yes	Tariff Copy attached at F/A
J6.	Collection frequency (month)	Yes	Approximately Rs.500 Million per month
J7.	Describe the water tariff table	Yes	Tariff Copy attached at F/A
J8.	How to collection to water charge (How to meter reading)	Yes	Meter Reading Actual, Area slab consumption average
J9.	Water tariff structure	Yes	Tariff Copy attached at F/A
J10.	Problem of collection	1)Rationalization of Water & Sewerage Domestic Tariff is not being allowed since long last revision was allowed in May'2004, while costs have been multiplied especially: - i) Electricity cost. ii) Payroll 2) Non-Payment by the Government Departments. 3) Increase in Duplications and Untraceable properties as a result of manual/incomplete surveys in the past. 4) Difficult Disconnection due to buried water supply lines under consumer ramps. 5) Disconnection not possible due to single service line in case of multistory buildings. 6) Discrimination in billing due to non-availability of meters 7) Criminal Resistance. 8) Incapacity of payments by the general public 9) Leakages. 10) Non payments by the consumers due to shortage of water as well as polluted water in some areas. Slow pace of legal actions regarding Court Challans & Recovery Certificates issued from Revenue Directorate for recovery of outstanding dues from chronic defaulters	
J11.	The prevalence of water tank (%)		0%
J12.	Water tariff revision plan	Yes	Tariff Revision Plan has been indicated in Business Plan under 6.2 Copy attached at F/G
K. For economic and financial specialist			

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K1	Financial statements of WASA Lahore such as; 1) Balance sheet 2) Profit and loss statement 3) Surplus statement 4) Cash flow	Yes (Audit Report of FY 2008-09 attached at F/H)	Book-keeping section	Ms. Sidra Saleem Assistant Director Accounts 0337-7800442
K2	Budget Statements (Requested, Approval, Actual)	Yes (Attached at F/I)	Budget Section	Mr. Adeel Shahid AD (IT/Budget) 0337-7800450
K3	Asset Inventory of WASA Lahore and Asset Management (replacement) Plan	Not sure	-	-
K4	Any Financial And Economic Analysis Of WASA Lahore In Particular Audit Reports	Yes (attached at F/J)	Book-keeping section	Ms. Sidra Saleem Assistant Director Accounts 0337-7800442
K5	The related information such as current tariff system and revision schedule if there is water and sewage tariff revision movement	Tariff Revision Plan has been indicated in Business Plan under 6.2 Copy attached at F/G		
K6	Business, Investment and Financial Plans	Yes (attached at F/K)	Budget Section	Mr. Adeel Shahid AD (IT/Budget) 0337-7800450

L. For Environmental Management Officer

L1	The state's /city's environmental related laws, regulations other than national laws/regulations			
L2	Outline (location/operation period/category of waste/capacity) of the waste disposal sites	Yes	Mehmood Booti & Lakhoder Dumping site. Also, one in southern Lahore named as Gujjar Colony.	
L3	Outline (location/related law/designated year/construction restriction/management authority) of the environmental protection sites in the city	No restricted/specific sites available		
L4	Organization chart including environmental department/section (s)	No (Environmental Protection Department-EPD)	Organization chart is enclosed at F/L	Ali Ejaz Deputy Director, EPD 0333-4268724
L5	Role of environmental department/section (s)	No	EPD is responsible for enforcing the rules and regulations formulated epd.punjab.gov.pk	
L6	Organization chart including waste disposal management department/section(s)	No (LWMC)	-	-
L7	Role of waste disposal management	No	-	-

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	department/section(s)			
L8	Any later version of 1) Punjab Environmental Policy , 2015 (Draft) 2) Punjab Environmental Protection (amended) Act, 2012 3) Punjab Environmental Quality Standards (PEQS), 2016 4) Punjab Urban Water Supply and Sanitation Policy, 2007 5) Punjab Drinking Water Policy, 2011	No revision	-	-
M. For social management officer				
M1	Outline (Location/Related Law/Designated Year/Construction Restriction/Management Authority	Yes	Walled City Authority Lahore (for cultural and heritage sites) WCLA Act 2012 & Auqaf and religious affairs department constituted through the Punjab Waqf Properties Ordinance, 1979 http://walledcitylahore.gov.pk/ http://www.punjab.gov.pk/auqaf_and_religious_affairs	
M2	Population of ethnic groups/indigenous people	Not sure	-	-
M3	Location of ethnic groups/indigenous people habitats	Not sure	-	-
M4	Organization chart including PR/public awareness/environmental education department/section(s)	Yes	Public Relation Officer Social mobilization cell	Mr. Imtiaz Gouri 0321-4231038 Miss. Tajwer Saeed 0333-3339752
M5	Role of the PR/public awareness/environmental education department/section (s)	Planning and executing Awareness campaigns Liaison with educational institutions, concerned public agencies, local & international NGOs etc.	Public Relation Officer Social mobilization cell	Mr. Imtiaz Ghauri 0321-4231038 Miss. Tajwer Saeed 0333-3339752
M6	Labor laws applied to workers	Yes	LDA Act 1975, Efficiency and Discipline Rules (BS-16 & above), Punjab Employees Efficiency, Discipline & Accountability Act (BS-1 to 15) http://wasa.punjab.gov.pk/regulations	
M7	Water-borne disease records for 10 years	Not Sure	In-charge WASA Laboratory may provide some record	Dr. Zainab Abbas 0333-3339751
N. For land acquisition/resettlement officer				
N1	The state's/city's land acquisition related laws/regulations other than national	Yes	Land Acquisition Collector	

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	laws/regulations			
N2	The state's/city's resettlement related laws/ regulations other than national laws/ regulations	Yes	Land Acquisition Collector	

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Progress of Drainage Master Plan (Excluding O&M)

a) Management system of WASA-L on drainage

- Are works for drainage managed by each local office, or is there a controlling organization at the headquarters?

Reply: Works for drainage are managed by each local office

- Who is in charge of storm water/drain system management?

Reply: DMD (O&M) is overall in charge of Drainage system

- How are measures taken during the monsoon season? (No need in detail)

Storm water drainage is managed by two sections of WASA, Drainage staff and sewerage staff. They are deputed on sore points concerned with their area of jurisdiction. They are supposed to operate connected disposal stations at full capacity and ensure installation of engine driven dewatering sets at identified points and depute suction machines at points where WASA system does not take storm water automatically. These points are monitored till the finishing of ponding.

b) Progress of Drainage M/P (Excluding O&M)

Construction of Secondary & Tertiary Drains

Construction of Haji Camp Drain

Name of Project:	Storm Water Drainage System from Haji Camp to River Ravi via Laxmi Chowk, Macleod Road, Nabha Road, Chauburji and Sham Nagar, Lahore.
Catchment Area	575 Acre
Revised PC-I Cost:	3108.412 Million
Revised Administrative Approval:	28.02.2019 amounting Rs. 3,108.412 million
Consultant	NESPAK
Funded by	Government of Punjab through ADP
Status	Construction in progress
Funded by	Punjab Government/ADP

Scope of Work:

<u>Sr</u>	<u>Description</u>	<u>Scope</u>	<u>Achievement</u>
1.	Cast in situ Drain/Pre-Casted Drain	10 Km	6.7 Km

Benefited / Catchment Area:

The instant project has its apex importance in terms of disposal of Storm Water separately from sewage into River Ravi that may results in better recharging of aquifer. The above cited project caters Haji Camp side, Nicolson Road, Nisbat Road, Macleod Road, Napier Road, Thornton Road, Mall Road, Maclagan Road, Nabah Road, Old Anarkali Road, Jain Munder Chowk, Lake Road, Choburji Chowk and Sham Nagar Road.

II. Laying of Sewerage System from Larechs Colony to Gulshan-e-Ravi, Lahore (through Trenchless Technology)

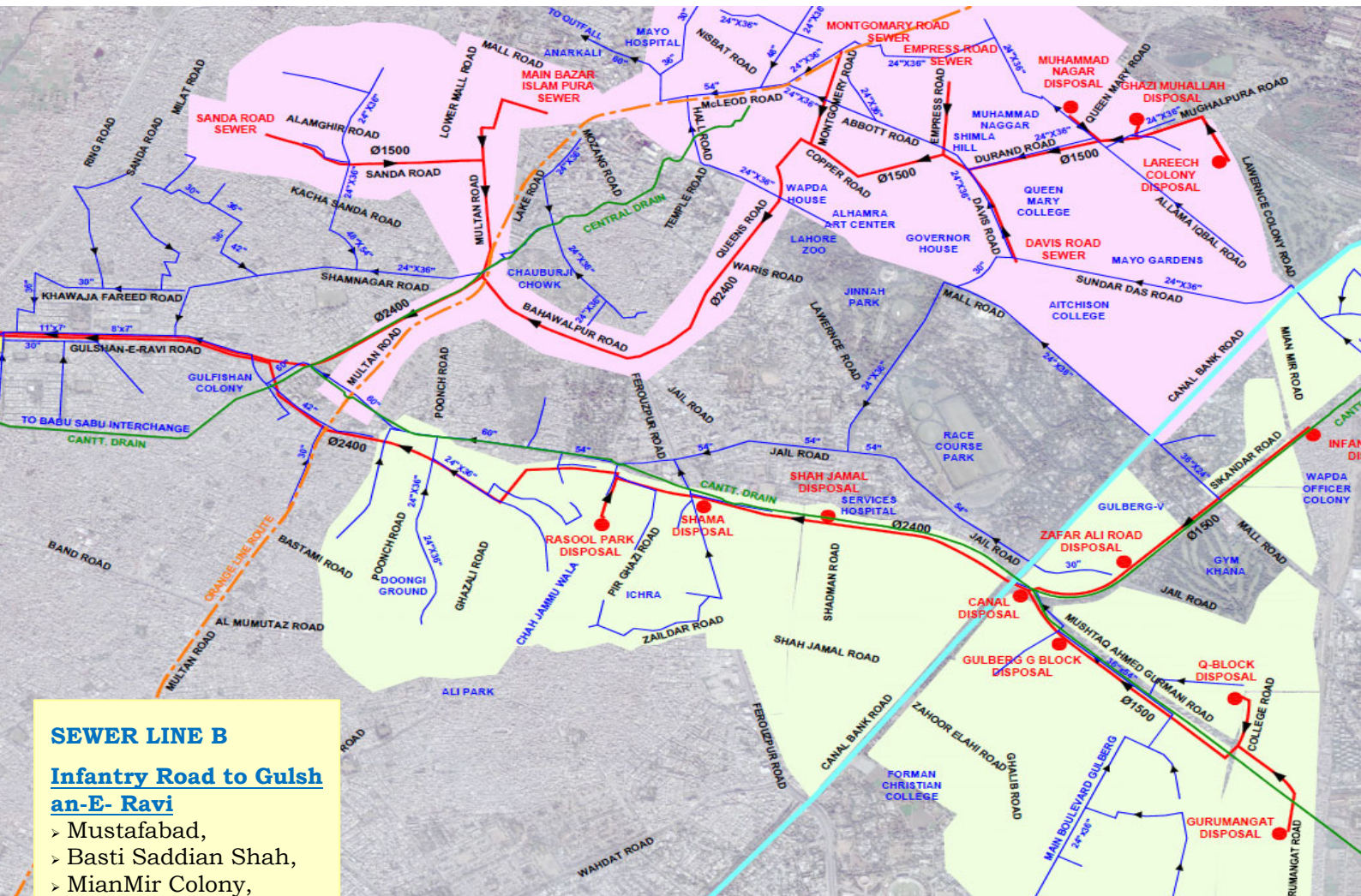
WASA Lahore has initiated the project with the objective of separation of sewage from the Cantonment Drain having maximum sewage flow and provision of trunk sewer infrastructure for improvement of sewage system in the Central zone of Lahore.

The project PC-I has been approved by PDWP, CDWP and ECNEC on 16.07.2019, 25.09.2019 and 16.03.2020 respectively.

The proposed project will eliminate twelve (12) Intermediate Sewerage Lift Stations which are disposing off the sewerage into the open storm water channel. The storm water carrying capacity of Central and Cantonment Drain will be enhanced due to elimination of sewage and wastewater flows.

The project will be executed by utilizing the Trenchless Technology. Trenchless technology will cause minimum disruption to city life in project area during execution in comparison to open-cut method.

The project area is served by two routes of the sewerage system namely Line-A and Line-B.



SEWER LINE B

Infantry Road to Gulshan-E- Ravi

- › Mustafabad,
- › Basti Saddian Shah,
- › MianMir Colony,
- › Gulberg,
- › Shadman,
- › Shah Jamal,
- › Ichhra Shama,
- › Rasool Park,
- › Samnabad, and
- › Adjoining localities.

**Sewerage System from Larech Colony to Gulshan-e-Ravi, Lahore
(Through Trenchless Technolog**

Construction of storage and infiltration facilities (Storage water tanks)

Reply: One underground storage tank at Lawrence Road is complete and execution of two underground storage tanks at Sheranwala Gate and Kashmir Road is in progress.

Budget for implementation of Drainage M/P (Annual budget and mid-term budget)

Reply: Depending upon the Short Term and Long Term Investment Plans as proposed by consultants, Rs. 16.9 Billion required for improvement / rehabilitation of existing drainage system of Lahore and Rs. 17 Billion required for future extensions / developments in new proposed zones. All the funding will be difficult to arrange by Annual budget and mid-term budget therefore donors Agencies may be requested.

Was the M/P creation work budgeted by the Provincial government or by any other donor?

Reply: Punjab Government funded for the creation of Master Plan

Which solution has high priority to implement?

Reply: Underground storage tanks

C. Flood control project in cooperation with the subway Orange Line

- Contents of the project
- Effect of the project (Example; elimination of inundation in XX area)
- Progress of the project

D. Flooding measures for the past 3 years other than construction of drains concerning to M/P (excluding O&M works)

Already replied at Sr. No. 2.

Also, monsoon preparation is done before commencement of monsoon. The plan for monsoon activities is enclosed as **Annexure-A**.

1. Construction of drains implemented by road department and others

During the construction of underpasses etc., in order to prevent flooding, the storm water drains are constructed by road department

2. Construction of roadside drains implemented by road department and others

Reply: No additional drain is constructed by them

i. Monitoring data of ponding sore points

In Master Plan, the consultant has identified the critical ponding locations, ponding areas rectified by WASA so far as well as Ponding Areas that require rectification. These tables are enclosed as **Annexure-B**.

ii. How past JICA's two grant aid projects have contributed to improving flooding situation?

1. As for the Grant Aid Project finished by 2006

2. As for the Grant Aid Project finished by 2012

Current condition of O&M of drains

- Is there any change in the problem of dumping garbage into the main drains?
Reply: There is no change
- Who manages the road side drains and their current status ?
Reply: Local Municipal Corporation of Lahore maintains them. Current status is not satisfactory

Note: Yellow color questions are yet to be answered