



SAFE DRINKING WATER FOR ALL



Performance Report

PUNJAB AAB-E-PAK AUTHORITY

(September 2023)



PUNJAB AAB-E-PAK AUTHORITY

GOVERNMENT OF THE PUNJAB



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INTRODUCTION



VISION

“To be center of excellence in innovative and sustainable drinking water solutions”



MISSION

“Committed to provide effective & efficient service with technically, financially and socially viable drinking water solutions for improving the quality of life in the province”



TOP STORY

Punjab Aab-e-Pak Authority is committed to provide safe drinking water to the people of Punjab. The authority aims to come up with customized sustainable solutions to facilitate domestic consumers with safe and healthy drinking water. The Authority is working in all 36 districts of Punjab, which will initially benefit over 5.0 million of the population deprived of accessing clean drinking water with the provision of clean drinking water that meets WHO drinking water guideline in phase-I of provincial ADP financed projects. In addition, through UNICEF funding construction installation as well as rehabilitation of filtration plant, approximately 1.00 million population is being benefitted. This makes the total population being benefitted so far to 6.0 million. The authority aims to provide clean drinking water to all deprived population of the Punjab for which phase-II of provincial ADP funded project is also commenced.

PROJECTS FUNDED BY GOVT. OF THE PUNJAB

*(Models Adopted for Provision of Clean
Drinking Water)*

MODEL 1

WATER SUPPLY TO VILLAGES THROUGH OHR FED BY TUBEWELL AT CANAL CHAK JHUMRA, FAISALABAD

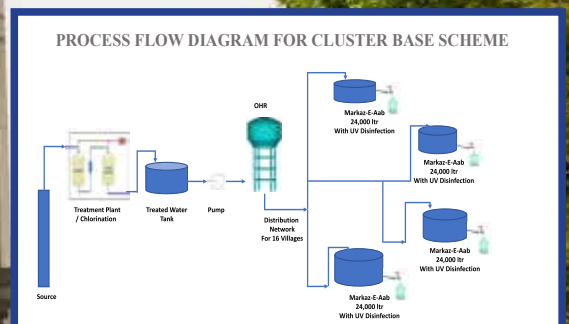
Punjab Aab-e-Pak Authority has successfully commissioned its state of the art project at Chak Jhumra, Faisalabad. The landmark project utilized borehole adjacent to the Jhang branch canal in Chak Jhumra. The Project's main components comprises 40 cubec meter per hour media filtration water treatment plant, Overhead reservoir (OHR), Rising Main and a water distribution network stretches to 48 KM of pipelines. More than 60,000 beneficiaries are obtaining safe and healthy drinking water on a daily basis from fifteen water centres (Marakaz e Aab) located in fifteen different villages.



MAIN BUILDING OUTER STRUCTURE



INSIDE WATER FILTRATION PLANT



MODEL 2

WATER SUPPLY TO VILLAGES BY CANAL WATER TREATMENT (COAGULATION, FLOCCULATION, MEDIA FILTRATION & DISINFECTION) RENALA KHURD, OKARA



Punjab Aab-e-Pak Authority has launched its first (Skid Mounted) containerized surface water treatment plant at Renala Khurd, Okara, Punjab. The project is the first in the country of such nature and caters population deprived to access clean drinking water. The water treatment of canal water occurs to the limits fit for drinking purposes and according to WHO guidelines. The innovative

project has the capacity to treat ten thousand litres of canal water per hour and serves more than 15 thousand of rural populations in the villages located in Renala Khurd, Okara, Punjab. The project was designed and conceived by Punjab Aab-e-Pak Authority's engineers in accordance with the groundwater conditions of the locality. Two similar installation are under construction at Kasur to



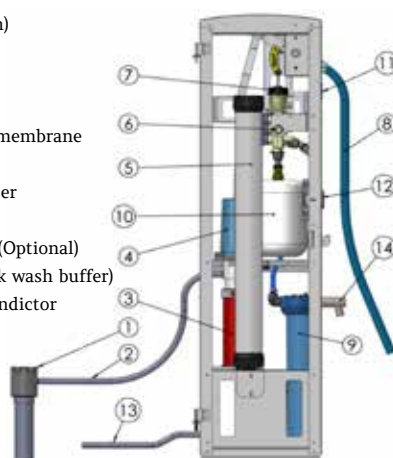
provide safe water to villages having arsenic contamination of their ground water.

MODEL 3

WATER SUPPLY TO REMOTE TRIBAL AREAS THROUGH INSTALLATION OF ULTRA FILTRATION HAND PUMPS ON PONDS

Revolutionary manually operated Ultra Filtration Hand Pumps introduced by Punjab Aab-e-Pak Authority in the tribal areas of Fort Munro, DG. Khan. This innovative initiative significantly benefitted the dwellers in the dire need for the obtaining clean drinking water from ponds. The multiple installations of UF hand pumps have taken place at ponds of accumulated rain water. The UF hand pump filters the ponds (surface) water to the level fit for drinking purposes and in accordance with WHO guidelines. The installation of UF hand pumps created great support for the dwellers of these remote areas.

1. Mesh Filter (0.05mm)
2. Inlet Hose
3. Feed Pump
4. Equalizer
5. Ultrafiltration (UF) membrane
6. Valve
7. Disinfectant dispenser
8. Pump Handle
9. Activated Cartridge (Optional)
10. Pressure Vessel (back wash buffer)
11. Backwash pressure indicator (manometer)
12. Water Meter
13. Drain Hose
14. Tap



MODEL 4

REVERSE OSMOSIS (RO) PLANTS

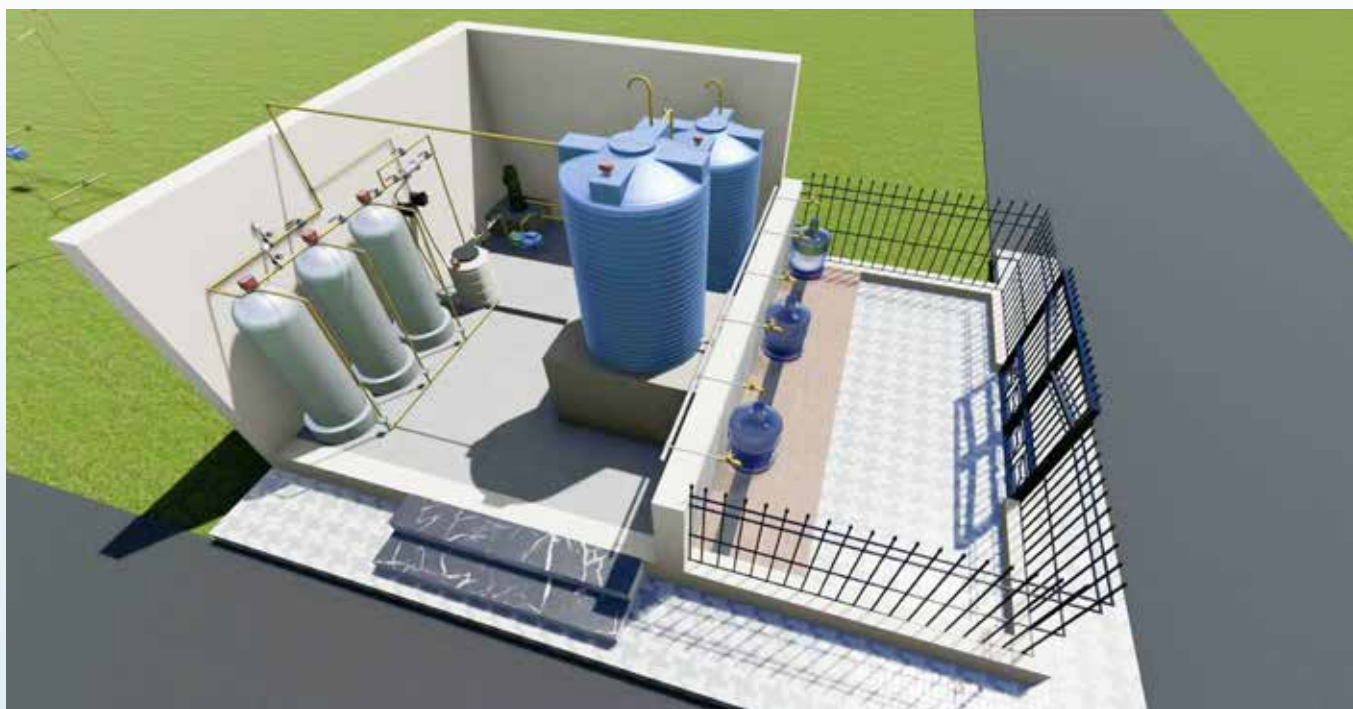
The villages having brackish groundwater with now surface water source in vicinity are being provided Reverse Osmosis (RO) plants as a last stand-alone option to provide clean drinking water. Four hundred (400) RO plants are being installed out of about one thousand (1000) installations in phase 1 of the projects financed by the provincial Annual Development Program (ADP). However, for coming projects the authority is considering the installation of RO plants as the least preferred option.



MODEL 5

MEDIA FILTRATION (MF)

In scenarios, where the raw water has no chemical or microbial contamination and only possible turbidity is to be eliminated, the process of media (sand, gravel) filtration is adopted along with activated carbon filtration. About four hundred (400) media filtration are installed out of about one thousand (1000) installation in phase 1 of the projects financed by provincial Annual Development Program (ADP).



PHASE-I

STATUS UPDATE

SOUTH ZONE

Division	District	In Progress	Completed	RO	MF	Total	Population
Bahawalpur	Bahawalnagar	4	41	14	31	45	225,000
	Bahawalpur	1	34	24	11	35	175,000
	Rahim Yar Khan	0	35	26	9	35	175,000
Multan	Multan	0	9	9	0	9	45,000
	Vehari	4	19	11	12	23	115,000
	Khanewal	0	24	21	3	24	120,000
	Lodhran	0	26	7	19	26	130,000
DG Khan	DG khan *	38	59	25	72	97	485,000
	Muzaffargrah	0	16	9	7	16	80,000
	Rajan Pur	12	15	22	5	27	135,000
	Layyah	0	9	6	3	9	45,000
Total		59	287	174	172	346	1,730,000

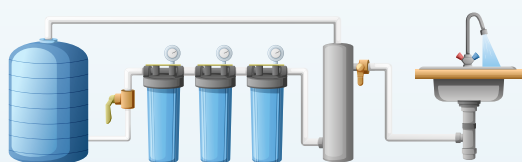
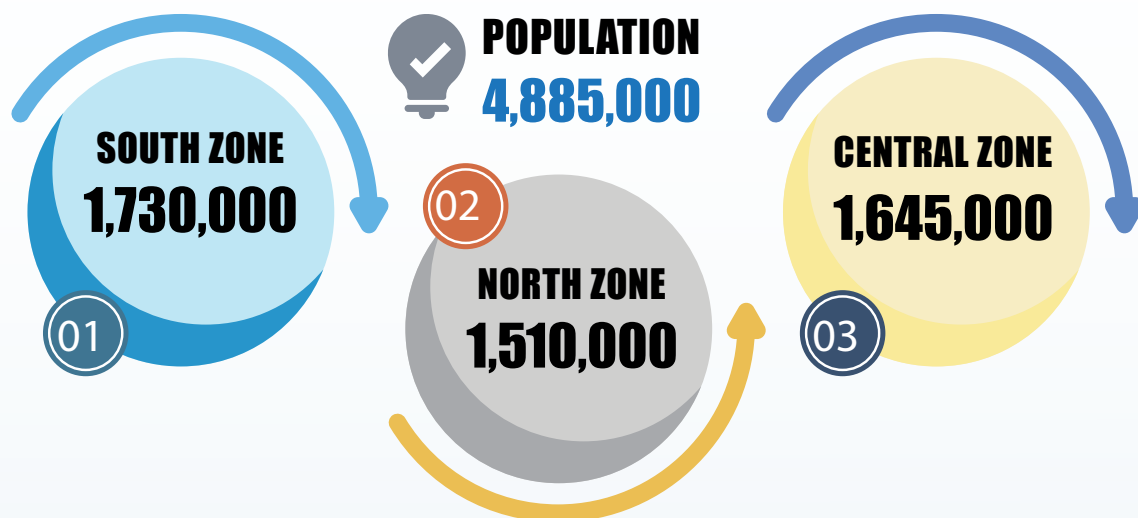
* Additionally 31 UF handpumps are installed at DG Khan tribal areas.

NORTH ZONE

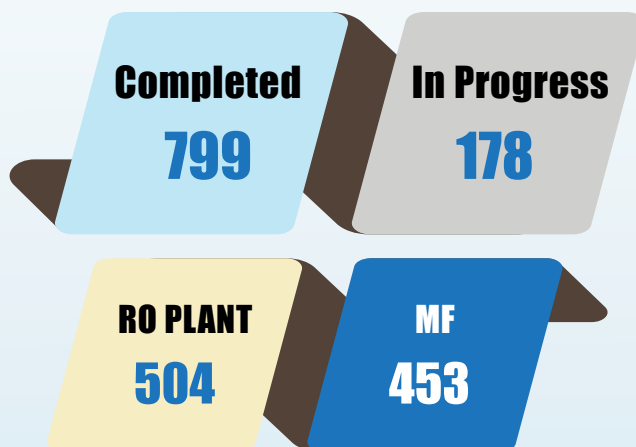
Division	District	In Progress	Completed	RO	MF	Total	Population
Rawalpindi	Rawalpindi	4	29	9	24	33	165,000
	Attock	2	18	8	12	20	100,000
	Jhelum	3	15	2	16	18	90,000
	Chakwal	7	27	15	19	34	170,000
Sargodha	Sargodha	25	32	53	4	57	285,000
	Bhakkar	6	3	4	5	9	45,000
	Khushab	16	15	25	6	31	155,000
	Mianwali	16	3	12	7	19	95,000
Gujranwala	Gujranwala	1	3		4	4	20,000
	Hafizabad	3		2	1	3	15,000
	M.B. Din	4	8	4	8	12	60,000
	Sialkot	1	21	1	21	22	110,000
	Gujrat	5	24		29	29	145,000
	Narowal		11		11	11	55,000
Total		93	209	135	167	302	1,510,000

CENTRAL ZONE

Division	District	In Progress	Completed	RO	MF	Total	Population
Lahore	Kasur	4	66	14	56	70	350,000
	Lahore	1	1	0	2	2	10,000
	Nankana	0	18	12	6	18	90,000
	Shekhupura	1	11	11	1	12	60,000
Sahiwal	Okara	5	29	23	11	34	170,000
	Pakpattan	0	22	13	9	22	110,000
	Sahiwal	2	36	25	13	38	190,000
Faisalabad	Chiniot	0	8	5	3	8	40,000
	Faisalabad	13	82	68	7	95	475,000
	T.T Singh	0	23	18	5	23	115,000
	Jhang	0	7	6	1	7	35,000
Total		26	303	195	114	329	1,645,000
Grand Total		178	799	504	453	977	4,885,000



**TOTAL
MARAKAZ-E-AAB
977**



PHASE-II

STATUS UPDATE

In phase II of the projects financed by the provincial Government through Annual Development Program (ADP), the process explained as Model No: 1, page No. 8 is adopted keeping in view the simplicity of design and ease of maintenance. In phase II, more villages at Chak Jhumra, Faisalabad and Rajanpur are being provided with safe drinking water through about 61 installations in villages of the province about 305,000/- population will be benefitted in phase II.

Utilization of already drilled 177 bore holes by PSPC

Umbrella PC-I	Sr. No.	Tehsil	No. of Bore Holes	No. of villages
Utilization of 66- Bore Holes North (Umbrella PC-I Approved) Cost: 3,688.16 M	01	Chak Jummrah	07	70
	02	Faisalabad Sadar	24	297
	03	Jaranwala	23	402
	04	Samundri	12	124
Utilization of 111- Bore Holes South (Umbrella PC-I Approved) Cost: 5,829.85 M	05	Rajanpur	12	145
	06	DG Khan	31	517
	07	Muzaffargarh	29	451
	08	Hasilpur	11	145
	09	Lodhran	13	195
	10	Khanpur	15	276
TOTAL			177	2,622

Sr. No.	Tehsil Name	Progress Update (Bore Hole Cluster)	Remarks
01	Chak Jummrah	04 Clusters: Execution in progress	Funds: Government of the Punjab
02	Rajanpur	02 Cluster: Execution in Progress	Funds: UNICEF
03	Rajanpur	02 Clusters: PC-I's approval in progress	Funds: Government of the Punjab
04	Samundri	10 Clusters: PC-I's approval in progress	Funds: Government of the Punjab
05	For remaining clusters PC-I under preparation		

PROJECTS FUNDED BY UNICEF

Containerized Surface Water Treatment Plant at Kasur (In-progress)

After successful completion of containerized (Skid mounted) surface water treatment plant at Renala Khurd, Okara. Punjab Aab-e-Pak Authority collaborated with UNICEF to replicate the model at Badarpur, Kasur. With the financial support from the UNICEF. Surface water treatment plant at Badarpur, Kasur is under construction in full swing. The project consists of the main surface filtration at Badarpur canal with two marakaz e aab located in villages one at Badarpur village and the other at Kallaian village with a total number of beneficiaries of more than 13500 population. Due to the high level of TDS and arsenic value in the ground water the community is suffering from stomach and skin diseases and highly appreciating the intiaive of constructing the project



having a filtration capacity of 10 cubic meter/hour. Another skid mounted surface water treatment plant is now under execution at Kasur through UNICEF financing.



Moveable, Solarized, Containerized UF Water Filtration Plants



On the recommendations from Aab-e-Pak staff performed flood relief activities in southern Punjab. The management decided to work on personalized mobile units for water filtration to take part in emergency relief operations. The team started working on the innovative idea to build the moveable, containerized solar powered UF water filtration units with the support from UNICEF. The concept of building water filtration

plant units which can be easily towed from one station to the other has successfully materialised hence Aab-e-Pak has 10 moveable units installed in different schools in the flood prone area of District Rajanpur as needed.

The solar powered UF water filtration units have the capacity to filter 500 litres of flood water/ Canal water per hour without groundwater extraction which ultimately promotes water conservation as well.



Water Bottles Distribution In Flood Affected Areas

Punjab Aab-e-Pak Authority in Collaboration with UNICEF Pakistan launched a support program to provide clean drinking potable water bottles (Jerry Cans) to flood victims in South Punjab. Twenty five thousands recyclable bottles of 20 liters capacity were distributed in the relief camps located in District Rajanpur and District Tunsia and to families in terrible need of clean drinking water. As a relief operation complimentary distribution of specially designed water bottles helped flood affectee families to carry on their domestic



affairs smoothly.

Afridev Handpumps

The Afridev Hand Pump is a conventional lever action hand pump. It is designed for heavy-duty use, serving communities of up to 300 persons. The Afridev Pump is a conventional lever action hand pump. It is designed for heavy-duty use, serving communities of up to 300 persons. This installation is fully corrosion resistant, easy to install and has excellent potential for community-based maintenance. Punjab Aab-e-Pak authority has installed 236 Afridev hand pumps in District Rajanpur with the corporation of UNICEF. These are installed where ground water is safe and small communities scattered in area were deprived of safe drinking water.



Autoclave for Sterilization of Water Sampling Bottles

An autoclave is provided by UNICEF for sterilization of water sampling bottles to ensure reliable analysis of microbial contamination in water. This equipment will be useful for credible analysis of raw and treated water through Aab-e-Pak Authority installations.



Completed Projects

Sr. No	Description	No of Installations	Populations Served
1	Direct Supply With Deep Solar Bore For Community & Live Stock In Rajanpur District	16.00	80,000
2	Provision Of Drinking Water To The Flood Affected Community Of Dg Khan Division Through Jerrycans From Water Bottling Plants & Mobile Ultra Filtration Hand Pumps	22,000.00	88,000
3	Provision Of Drinking Water To The Flood Affected Community Of Dg Khan Division Through Mobile Uf Hand Pumps	5.00	30,000
4	Rehabilitation Of Water Filtration Plants In Flood Affected Areas In Distric Rajanpur.	10.00	50,000
5	Direct Supply With Deep Solar Bore For Flood Affected Community In Dg Khan & Rajanpur Distric	15.00	75,000
6	Containerised Solar Powered Ultra Filtration Plants 1000 Lph In Flood Areas Of Tehsil Jampur	5.00	25,000
7	Containerised Solar Powered Ultra Filtration Plants 1000 Lph In Flood Areas Of Tehsil Rajanpur	5.00	25,000
8	Rehabilitation Of Existing Filtration Plants In District Multan, Dg Khan & Lahore	78.00	390,000
9	Rehabiltation Of 22 No. Water Filtration Plants Installed By Various Departments In Lahore	22.00	110,000
10	Supply Construction Installation Of 01-No. 1000-Ltr/Hr (Reverse Osmosis) + Arsenic Removal) Water Filtration Plant With Source Development At Mohallah Islampura Kameer In Sahiwal Division	1.00	5,000
11	Installation Of Water Filtration Plant For Provision Of Safe Drinking Water To Flood Affected Area Of Village Sultan Khel, Tehsil Isa Khel, District Mianwali By Punjab Aab-E-Pak Authority	1.00	5,000
Total Population Served			883,000

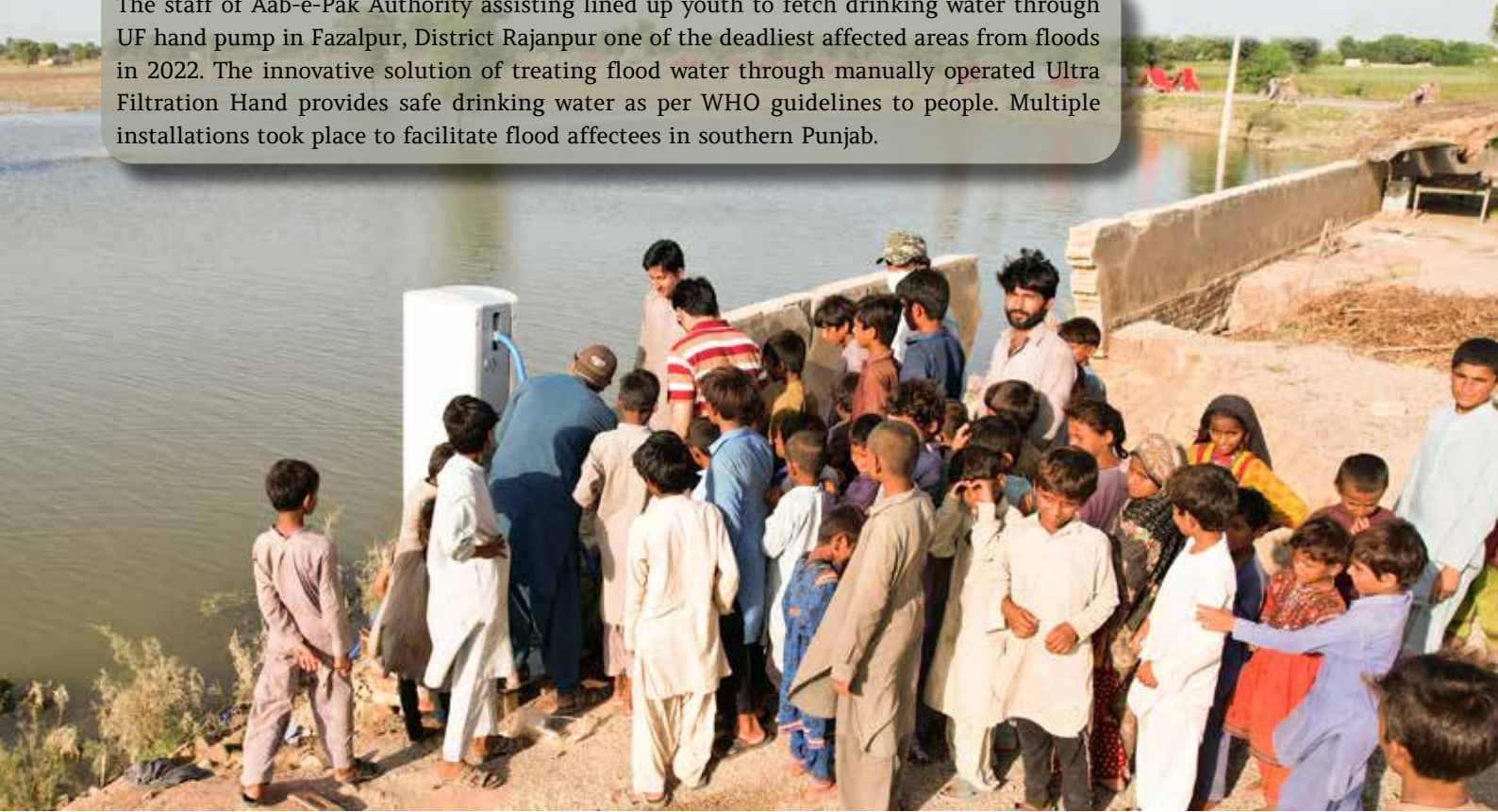
Projects In-progress

Sr. No	Description	No of Installations	Populations Served
1	Utilization Of 111 Existing Bore Holes By Punjab Saaf Pani Company, In South Zone, Cluster # 11	6.00	30,000
2	Provision Of Safe Drinking Water To 41,000 Flood Affected People Through Cluster Based Community Water Supply System In Murghai, Tehsil Rajanpur, District Rajanpur (Cluster # 7)	9.00	45,000
3	Supply, Construction, Installation Of Surface Water Treatment Plant, Solar And Scada Systems At Rural Area Of District Kasur By Punjab Aab-E-Pak Authority	2.00	10,000
4	Supply Construction, Installation Of Containerized, Skid Mounted Surface Water Treatment Plant Alongwith Solar Panel And Scada System At Rural Area Of Distt. Kasur (Phase Ii) By Punjab Aab-E-Pak Authority	2.00	10,000
Total Population Served			95,000

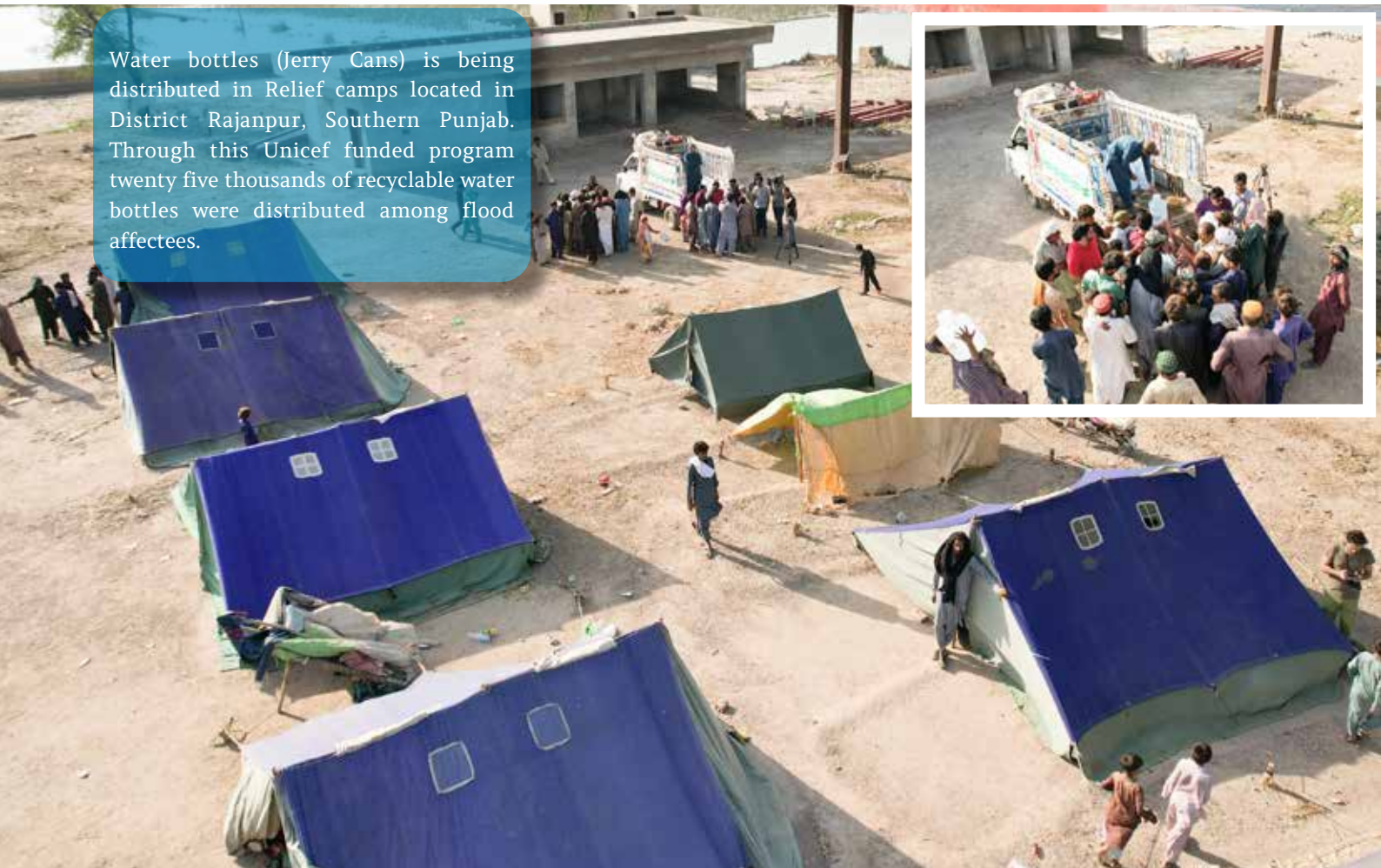
FLOOD RELIEF ACTIVITIES

(Funded by UNICEF)

The staff of Aab-e-Pak Authority assisting lined up youth to fetch drinking water through UF hand pump in Fazalpur, District Rajanpur one of the deadliest affected areas from floods in 2022. The innovative solution of treating flood water through manually operated Ultra Filtration Hand provides safe drinking water as per WHO guidelines to people. Multiple installations took place to facilitate flood affectees in southern Punjab.



Water bottles (Jerry Cans) is being distributed in Relief camps located in District Rajanpur, Southern Punjab. Through this Unicef funded program twenty five thousands of recyclable water bottles were distributed among flood affectees.



SURVEY AND ANALYSIS OF ALL WATER FILTRATION PLANTS INSTALLED IN PUNJAB

In Punjab more than 4000 water filtration plants have been installed by various government entities. There was no central data available for mapping all these installations. Moreover, there was need to get water quality tested at these filtration plants. Punjab Aab-e-Pak Authority took this initiative and surveyed all the filtration plants in the province. About 60% found mechanically functional but their water quality still was not confirmed as safe, therefore Punjab Aab-e-Pak Authority got water of these functional filtration plants tested by PCRWR through Wateraid and UNICEF funding. After getting output water of all these filtration plants tested, a detailed report has been published. Water quality of about 25% functional plants were found unfit for human consumption. This report is a good reference document for the government to device further action plan for provision of safe drinking water in the province.

Areawise Survey

Survey of existing filtration plants installed by different Govt. Departments in Punjab

Sr No.	Divisions	Distric Name	Total No of Plants	Plant Type			Functional	Non Functional
				RO	UF	MF		
CENTRAL ZONE	Lahore	Lahore	958	101	857	0	649	309
		Sheikhupura	29	-	29	-	29	-
		Nankana	16	2	14	0	4	12
		Kasur	73	6	67	0	26	47
	Sahiwal	Sahiwal	154	135	19	0	122	32
		Pakpattan	69	9	39	21	26	43
		Okara	54	17	37	0	51	3
	Faisalabad	Faislabad	227	221	4	2	155	72
		Chiniot	24	12	12	0	16	8
		Jhang	59	36	23	0	50	9
		TT Singh	35	13	22	0	29	6
	NORTH ZONE	Sargodha	Sargodha	61	51	9	1	26
Khushab			14	5	7	2	10	4
Mianwali			42	11	31	-	3	39
Bhakkar			8	8	-	-	-	8
Rawalpindi		Rawalpindi	246	5	24	217	159	87
		Attock	60	2	42	16	48	12
		Jehlum	9	1	5	3	8	1
		Chakwal	8	-	2	6	5	3
Gujrat		Gujrat	152	0	152	0	94	58
		Mandi Bhahudin	37	10	9	18	23	14
		Hafizabad	18	2	3	13	14	4
Gujranwala		Sialkot	82	5	24	53	48	34
		Narowal	302	0	42	260	68	234
		Gujranwala	80	10	59	11	40	40
SOUTH ZONE	Bahawalpur	Bahwalnagar	72	32	40	0	51	21
		Bahawalpur	152	113	39	0	110	42
		Rahim Yar Khan	141	133	8	0	95	46
	Multan	Lodhran	57	20	37	0	42	15
		Vehari	121	97	22	2	73	48
		Khanewal	107	42	65	0	79	28
		Multan	350	49	301	0	251	99
	Muzaffargarh	Layyah	12	0	12	0	9	3
		Rajanpur	44	31	13	-	18	26
		DG Khan	123	118	5	0	90	33
		Muzafargarh	64	50	14	0	22	42
Grand Total			4060	1347	2088	625	2543	1517

Departmentwise Survey

Sr No.	Organization	Total No of Plants	RO	Func.	Dysf.	UF	Func.	Dysf.	UV/MF	Func.	Dysf.	Total Functional Plants	Total Dys-Functional Plants
1	PHED	1349	702	376	326	561	248	313	86	29	57	653	696
2	MCL	119	0	0	0	119	48	71	0	0	0	48	71
3	WASA-LHR	574	0	0	0	574	573	1	0	0	0	573	01
4	Other WASAs	249	1	1	0	61	58	3	187	125	62	184	65
5	Health Dept	45	31	28	3	12	11	1	2	2	0	41	4
6	LG&CDD , MC, TMA, DC	1359	364	202	162	648	404	244	347	143	204	749	610
7	Education	228	155	136	19	70	51	19	3	3	0	190	38
8	Pak PWD	21	0	0	0	21	9	12	0	0	0	9	12
9	PSPC	116	94	78	16	22	18	4	0	0	0	96	20
Grand Total		4060	1347	821	526	2088	1420	668	625	302	323	2543	1517

Survey of Punjab Aab-e-Pak Authority Water Filtration Plants

Sr No.	Organization	Total No of Plants	RO	Func.	Dysf.	UF	Func.	Dysf.	UV/MF	Func.	Dysf.	Total Functional Plants	Total Dys-Functional Plants
1	Aab-e-Pak	967	484	484	0	-	-	-	483	483	0	967	0

Water Quality Analysis by PCRWR (with WaterAid and UNICEF Funding)

Sr. No.	Region	Total Functional Plants	Unsafe Plants		Safe Plants	
			No	o/o age	No.	o/o age
1	North Punjab (Water analysis by PCRWR sponsored by the WaterAid Pakistan)	883	328	37	556	63
2	Central Punjab (Water analysis by PCRWR sponsored by the WaterAid Pakistan)	853	126	14	726	86
3	South Punjab (Water analysis by PCRWR sponsored by the UNICEF Punjab)	807	269	33	538	67
Total		2543	723	28	1820	72

TECHNICAL COMPARISON OF MOBILE FILTRATION PLANTS DEPLOYED IN FLOOD AREAS

During recent flood in the country various organisations deployed different kinds of water purification equipments but there was no credibility of these equipments to ensure safe drinking water to flood affectees. Accordingly Punjab Aab-e-Pak Authority took this initiative and technically compared and evaluated the efficacy of these equipments to enable various organisations to use suitable equipment to provide safe drinking water to flood affectees.

Flood Relief Products Technical Comparison



UF Hand Pump



Bond E Shams



EcoCare Experts BOX



EcoCare Experts HP



Sr. No.	Description	UF Hand Pump (Punjab Aab-e-Pak Authority)	Bond E Shams	EcoCare Experts BOX	EcoCare Experts HP
1	Capacity (LPH)	500 LPH	1000 LPH	1000 LPH	500 LPH
2	Technology	HandDriven Ultrafiltration	Solar Ultrafiltration	Solar Ultrafiltration	
3	Power Source	Hand Driven (SS Bar)	Solar 250 - 300 W	Solar 700-900 W with inverter 1000 KVA	Hand Driven
4	Feed or Raw Water	Flood / Pond / Canal	Flood / Pond / Canal / Bore	Flood / Pond / Canal / Bore	Flood / Pond / Canal
5	Feed Pump	Mechanical Pump Available / Plunger type,	Submersible with DC Motor 0.5 - 0.8 HP	Feed Pump with AC Motor 0.5 - 0.75 HP 220 Volts	Mechanical Pump / Local / not reliable
6	Strainer for Raw Water	0.005 mm Mash Filter	Not Available	Available	Not Available
7	Cartridge Filter	Available	Available	Available	Available
8	Pre Filter (Sand & Activated Carbon)	Activated Carbon Filter	Activated Carbon Filter	Activated Carbon Filter	Activated Carbon Filter
9	Pressure Gauges	Available	Nil	Available	Nil
10	Water Flow Meter	Available	Nil	Available	Nil
11	Back Wash System	Automatic High Pressure Back wash System	Manual	Automatic	Manual
12	Back Wash Water Quality	With Clean / Product Water (Due to high Turbidity)	With Raw Water	With Clean / Product Water (Due to high Turbidity)	With raw Water
13	Back Wash Indicator	Available (With pressure Gauge)	Not Available	Available	Not Available

Sr. No.	Description	UF Hand Pump (Punjab Aab-e-Pak Authority)	Bond E Shams	EcoCare Experts BOX	EcoCare Experts HP
14	Membrane	NSF 61 / KIWA (UF) imported	China / Locally Available	Pall, Made in China (Low Energy UF membrane)	China / Locally Available
15	Storage Tank	Nil	600 liter	400 - 500 liter	Nil
16	"Size of Box (L x W x H)"	1.94 x 1.64 x 5.67 ft	6 x 4 x 6 ft	6 x 4 x 5.5 ft	4 x 5 x 5.5 ft
17	Weight	85 Kg	1000 Kg	1000 Kg	200 Kg
18	Installation / Foundation	Ready to installed / No Foundation required	Foundation required	Foundation required	Foundation required
19	Mobility / Movement	Easy to move, No tow truck required	Wheel mounted / Tow Truck required	Wheel mounted / Tow Truck required	Easy to Move
20	Operation and Maintenance	Cartridge filters and Chlorine tablets for disinfection of plant is available for one year maintenance	Nil	Including 5 Years Maintenance	Nil
21	Cost per unit	2.5 million	1 million	1 million	0.6 million
22	Branding	Allowed	Not Allowed	Allowed	Allowed
23	Body Material	Excellent (Acrylic Resin Double hull) free from Rusting	MS Sheet (Finishing of Welding Joints) Reason for rusting, but can be improved.	MS Sheet (Finishing of Welding Joints) Reason for rusting, but can be improved.	Not good MS Sheet (Finishing of Welding Joints) Reason for rusting

Evaluation and Analysis

UF Hand Pump used by Punjab Aab-e-Pak Authority

System is imported having relatively higher costs. System is self contained, easy to move giving good water quality results. Overall look and quality are superb and system has high reliability. Preferred solution for flood relief activities since communities can self operate the system. (Accepted)

Bond E Shams

System is technically complex since it incorporates solar technology. System is self contained, giving reasonable water quality results. Overall look and quality are acceptable and can be improved. A good solution for flood relief activities but may be difficult to move owing to its weight. If the backwash system is automated system may become a preferred solution. (Conditionally Accepted)

EcoCare Experts BOX

System is technically complex since it incorporates solar technology. System is self contained, but could not be tested for water quality results. Overall look and quality are acceptable and can be improved. A good solution for flood relief activities but may be difficult to move owing to its weight. (Conditionally Accepted)

EcoCare Experts HP

System is simple but the quality is not good and there is a lot of room for improvement. Susceptible to water quality variations. Overall look is not impressive. System is discarded as a reliable solution. (Rejected)

IT INTERVENTIONS IN PUNJAB AAB-E-PAK AUTHORITY

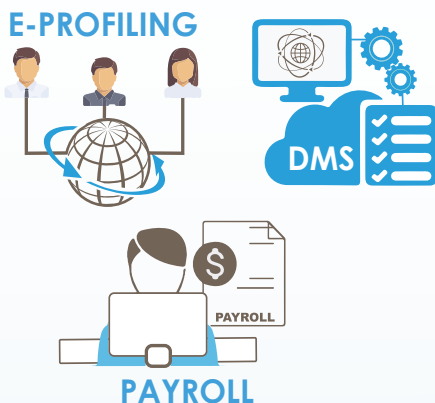
Punjab Aab-e-Pak Authority opted Paperless environment, Paperless is a software solution that integrates different modules like Document Management System, E-Profile & E-payroll and processes to ensure the efficient management of existing tasks. It helps users to store documents digitally which are easily and readily accessible on demand to the legitimate users over the internet. The traceability of all the documents is possible on a single click. Online document storage is less vulnerable to physical disasters like fires or floods, as data is typically backed up online in secure Data Centers. Moreover, by reducing paper usage and promoting digital workflows, Aab-e-Pak Authority has streamlined its routine operations by saving time and money.

Aab-e-Pak Authority is now Paperless

Aab-e-Pak Authority has transitioned to paperless working environment. IT team of the authority developed and implemented Human Resource Management Information System (HRMIS) which is the umbrella that covers different modules like E-Profiling, Paperless (DMS) and E-Payroll integrated together. It continuously gathers relevant data through data entry forms both from inside and outside of the organization. This data is then processed,



HRMIS comprises of following modules:

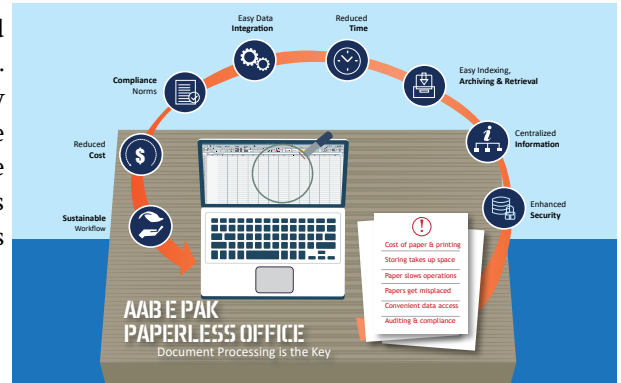


Multi Homing Uninterrupted Internet Services

Punjab Aab-e-Pak Authority has adopted digital Document Management System, which is an online portal and its accessible on the Internet services. So, 24 Hours uninterrupted internet services are assured through a dedicated Multi Homing Concept, employing a primary 60 Mbps CIR internet Link with redundant fiber and wireless backup. Additionally, a reliable 75 Mbps Flash fiber link serves as a backup, ensuring consistent accessibility even in case of disruptions.



integrated, and stored in a centralized database. Data is constantly updated and made available to all who have the authority to access it, in a form that suites their purpose.



Benefits of Paperless working

- With conventional way of business, employees usually lose as much as 40% of their time looking for paper files and approximately 20% of print jobs are never even retrieved from printers.
- Practice of paperless business resulted in avoiding lots of unnecessary waste and not allow leaving sensitive data exposed to any unrelated employee or visitor. On top, about 50% of all printed material that on any given day ended up in the trash has been controlled.
- Cut out inefficiencies, which is estimated to be over 80% to impact the bottom line with improved document workflow; and Reduce time and paper waste (paper waste only accounts for over 50% at the beginning of such paperless operation) and significant cut on respective costs.

Advanced Security Cameras

The IP Cameras with the NVR System has been installed at Aab-e-Pak Head office for security purposes. The system has provision of real time monitoring of cameras from any remote location and having capability of storing the video recordings of 15 Days.



Aab-e-Pak File Transfer Protocol (FTP) Server



The deployment of the FTP Server within the Punjab Aab-e-Pak Authority eliminates the need for USB devices and offers a crucial centralized platform for seamless file exchange among various locations and regional offices. This strategic

shift safeguards data by avoiding malware-infected USBs, reduces USB procurement expenses, and provides Aab-e-Pak officials with access to a collaborative workspace for enhanced knowledge sharing.

Biometric Device

The biometric attendance system implemented by Punjab Aab-e-Pak Authority offers numerous advantages for human resources management. It enhances accuracy and reliability of attendance records through secure storage of employees' fingerprints in the device's database, ensuring

error-free identification during check-ins and check-outs. This boosts efficiency in attendance tracking while the monthly generation of a comprehensive summary report streamlines verification and payroll processes. In essence, the system optimizes human resources management, fostering operational effectiveness and minimizing administrative workload.

Short Digit Helpline (1336)



Punjab Aab-e-Pak Authority has established a province wide short digit helpline which enables consumers to register water related complaints. The toll free short digit helpline 1336 can be accessed through all cellular networks operating in Punjab Province. A dedicated team receives complaints across Punjab and forwards them to concerned area officers to resolve them as soon as possible.



Introduction Life 360 APP

In order to ensure effective operation, Aab-e-Pak IT team has also introduced the Life 360 app's services to track the performance and activity of Aab-e-Pak field employees as well as to analyze real-time data and fuel consumption as per the distance covered. The IT Team is in-charge of compiling daily statistics on the travel patterns of field personnel, including the distance travelled, the route used, and the time spent travelling.



Website of Punjab Aab-e-Pak Authority

The Punjab Aab-e-Pak Authority advances transparency and accessibility through its official website, showcasing its commitment to open communication. It reveals the Authority's Vision, Mission, and Management Structure, while also

navigating visitors through Services Departments, project details, number of the beneficiaries, and functions. The site offers vital tendering information, real-time project updates, and contact channels, embodying a pioneering step towards efficiency and engagement.



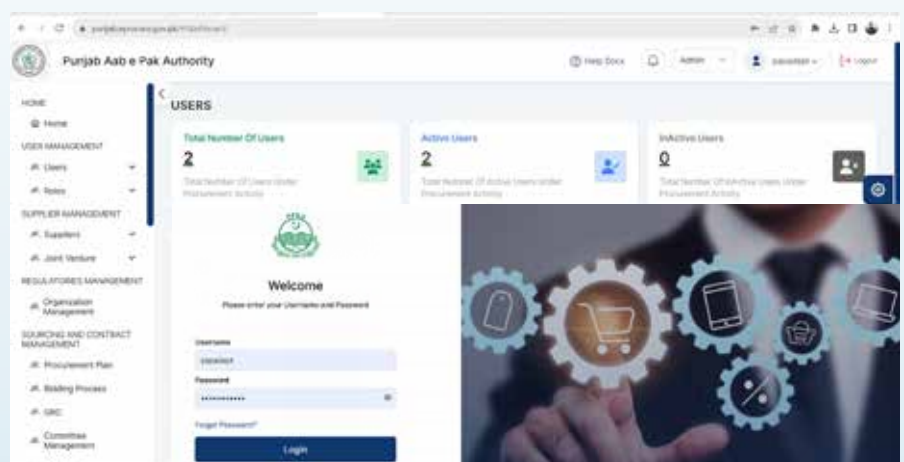
Punjab Aab-e-Pak Authority

Punjab Aab-e-Pak Authority is committed to improve public access to safe drinking water and ensure the sustainable operation and maintenance of water supply services, for each household of Punjab Province. Our mission is to help the government eradicate water-borne diseases and improve the health of all the people of Punjab.

Punjab Aab-e-Pak Authority is constituted under the Punjab Aab-e-Pak Authority Act 2019 and is responsible for the provision of clean drinking water to the people of Punjab, in consultation with the relevant entities including the local governments. The main objective of the Punjab Aab-e-Pak project is to provide clean drinking water to more than about 70 million population in 36 districts of Punjab province mainly in rural, semi-urban and peri-urban areas.

Aab-e-Pak Authority becomes first Govt organization with development portfolio to adopt E-tendering

The authority has become the first organization to implement E-procurement in Punjab and the E-procurement process has been adopted in the light of the instructions of the Punjab Government and by PPRA regulations. The standard of transparency will be ensured through e-procurement. E-tendering will be done for all the projects managed by Aab-e-Pak Authority.



MEETINGS & EVENTS

Korean delegation led by Mr. Jay Nam chief technical advisor on climate change visited Punjab Aab-e-Pak Authority



Chief executive officer Punjab Aab-e-Pak authority Syed Zahid Aziz welcomed the honourable guests in his office. A comprehensive briefing was given on the current situation of the provision of drinking water in the province. Director Procurement Mr. Zohaib Butt presented an overall brief presentation on the subject. A

ten-year water supply potential plan was discussed to be materialized with technical and financial Korean support in Lahore and Faisalabad. People having difficulty reaching safe drinking water in the region were focused in the discussion. The Korean delegation highly appreciated the human resource and ongoing



water projects of Aab-e-Pak authority in the province.

Bio Cleaner American Company Visited Punjab Aab-e-Pak Authority

Bio Cleaner, an American company specialized in waste water treatment visited the Punjab Aab-e-Pak Authority head office in Lahore. Chief Executive Officer Aab-e-Pak Authority Syed Zahid Aziz met his counterpart Mr Eros Kaw from Bio Cleaner and discussed topics of mutual interests. The company has vast experience in treating polluted water using advanced technological and environmentally friendly equipment. Further in discussion cleaning of polluted ponds in the rural areas of Punjab was considered in the meeting. Environment friendly Bio cleaning equipment can easily be installed in polluted drains and ponds without using electricity. After



the cleaning, water can be used for agriculture and will have a positive environmental impact on the whole. Water conservation is an utter need to secure water storage along with drinking water supply in rural areas of Punjab, Syed Zahid Aziz further

insisted in the meeting.

From Bio Cleaner Mr. Eros Kaw highly appreciated innovative water projects being introduced by Aab-e-Pak Authority and exhibited keen interest to participate in those projects.

MOU sign The IUB Pakistan



Punjab Aab-e-Pak Authority and Centre of Research on SDGs (Islamia University Bahawalpur) steps to sign MOU aims to enhance collaboration between research institutions and industry in achieving Sustainable Development Goals. It will also create an opportunity to help technical

students to work in the field during their academics.



Ground breaking at Cluster # 11 Chak Lassa, Tehsil Rajanpur

Mr. Wilbroad, Chief Financial Officer, UNICEF Pakistan along with Miss Sabahat, WASH Specialist, UNICEF Pakistan participated in ground breaking ceremony of Cluster Based scheme with solarized source well at Chak Lassa, District Rajanpur. The Scheme will provide clean drinking water to 30,000 people of 6 Villages.



Inauguration of Solar Based Containerized Plants in Flood Affected Areas of Tehsil Jampur and Rajanpur



Innovative concept of Moveable, solarized UF water filtration plants

built up in containerized form has been implemented in 10 flood affected villages of District Rajanpur. Mr. Wilbroad, Chief Financial Officer, UNICEF Pakistan along with Miss Sabahat, WASH Specialist UNICEF Pakistan has inaugurated the project. The plants can be used for filtration of flood water in case of emergency and they can be moved by toing with any vehicle. The project is serving 20,000 people in 10 villages.



Ground breaking at Cluster # 7 Chak Murgae, Tehsil Rajanpur

Ground Breaking of Cluster based scheme at Murgae, District Rajanpur by Mr. Wilbroad, Chief Financial Officer, UNICEF Pakistan and Miss Sabahat, WASH Specialist, UNICEF Pakistan along with Aab-e-Pak team. The Scheme will provide clean drinking water to 41,000 thousand people of 9 Villages.



Rehabilitation of Existing water Filtration Plants at District Multan, DG Khan & Rajanpur



Mr. Abdullah Fadi, Representative of UNICEF/Country Head of UNICEF in Pakistan along with Mr. Wilbroad, Chief Financial Officer, UNICEF Pakistan and Miss Sabahat, WASH Specialist, UNICEF Pakistan visited rehabilitated water filtration to visualize the sustainable operation of the plants by development partners

of Punjab Aab-e-Pak Authority. 64 water filtration plants has been rehabilitated in Multan, DG Khan and Rajanpur Districts.



UNICEF spot visit and briefing by Punjab Aab-e-Pak Authority Team at Surface Water Treatment Plant (SWTP) in Kasur

Miss Sabahat, WASH Specialist, UNICEF Pakistan visited under execution "Surface Water Treatment Plant" at Kafanwara, District Kasur to serve 20,000 people of 4

villages. The plant is designed to filter canal water as underground water TDS is above 20,000ppm.



World Water Day

On the occasion of world water day, a joint collaborative event was organized at the Punjab Aab-e-Pak Authority head office in Lahore with Helping Hand Pakistan a prominent NGO. Chairman of Pakistan Water Operators

Network / CEO Aab-e-Pak Syed Zahid Aziz along with Senior officials from Helping Hand Pakistan and notable social personalities graced the event. The participants emphasized on the concept of water conservation and to plan innovative projects to combat

water scarcity in the country. In the end, honorary shields were presented to the best performers especially to acknowledge their work in flood-affected areas.





Aerial View of one of the Markaz e Aab (Water Distribution Centre)

Located at

Chak 28-1 L, Tehsil Renala Khurd, District Okara , Punjab



ADDRESS: 4th Floor, EFU House, 6-D Main Gulberg, Jail Road, Lahore, Pakistan

Phone: +92 42 99263025 | +92 42 35786893-94-95-96, Helpline: 1336

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