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Islamic Republic of Pakistan

Capacity Development of urban service providers utilities

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GWASS

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Capacity Development of Urban Utilities

(P131985)

Water and Sanitation Program

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This synthesis report details the process, outputs and intermediate outcomes of the above Technical Assistance which was aimed at strengthening the capacities of urban utilities of Pakistan through innovations and initiatives such as the use of Information and Communication Technology in internal and external communication, peer-to-peer learning through an institutional forum, services to the urban poor, nonrevenue water reduction, incentives for performance, and a customer survey.

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Abbreviations and Acronyms

CDGL	City District Government, Lahore
CLC	Citizen Liaison Cell
F-WASA	Faisalabad Water and Sanitation Agency
GIS	Geographic Information System
GoKP	Government of Khyber Pakhtunkhwa
GoPunjab	Government of Punjab
HUD	Housing and Urban Development

HR	human resources
ICT	Information and Communication Technology
IVR	Interactive Voice Response
JICA	Japan International Cooperation Agency
Km	Kilometer
m^3	cubic meter
MDG	Millennium Development Goal
MNA	Member of National Assembly
MPA	Member of Provincial Assembly
NRW	Nonrevenue Water
PBC	Performance Based Contract
PHED	Public Heath Engineering Department
PFC	Provincial Finance Commission
P-WON	Pakistan Water Operators Network
P-WOPs	Pakistan Water Operators Partnerships
SDG	Sustainable Development Goal
TA	Technical Assistance
TAP	Technical Advisory Program
TOR	Terms of Reference
UC	Union Council
WASA	Water and Sanitation Agency
WSP	Water and Sanitation Program
WSSP	Water and Sanitation Services Peshawar

Executive Summary

1. This synthesis report details the process, outputs and intermediate outcomes of the Water and Sanitation Program (WSP) – a technical program within World Bank Water Global Practice - Technical Assistance (TA) on **Capacity Development of Urban Utilities (P131985).**

2. The TA was aimed at strengthening the capacities of urban utilities of Pakistan through innovations and capacity development initiatives such as: i) incentivizing performance through a performance grants mechanism; ii) use of Information and Communication Technology (ICT) in internal and external communication; iii) conducting a customer survey in the urban utility in Peshawar; iv) reviewing institutional aspects of services to the urban poor; v) promoting peer-to-peer learning through the institutional forum; and vi) conducting a technical study to develop a performance-based contract for non-revenue water reduction**.**

3. **Policy Paper on Performance Grants in Punjab:** On the request of Government of Punjab this TA supported preparation of a policy paper on "Performance Grant" to incentivize five Water and Sanitation Agencies (WASAs) of Punjab. The draft policy paper, developed in close consultation with stakeholders was submitted to GoPunjab for making informed decision in fiscal transfer to Punjab WASAs. WASAs are recipient of capital and operation support from provincial government under a "Provincial Finance Commission - PFC" formula but every year, under political pressure and due to poor performance of WASAs' the government has to pay additional funds on top of PFC. The objective of the policy paper was to link the additional funds for WASAs – on top of PFC – with performance i.e. improved service delivery. Performance based transfer would provide the provincial government a better financial instrument to track performance of WASAs and measure improvement in services against funds.

Extensive consultations, research and data reviews were carried out to draft the policy paper. The paper has been submitted to the provincial government for internal deliberations and approval. Once the paper is approved by the provincial government and allocations made in the FY 2016-17 budget the next step is preparation action plan for rolling out the principles of the policy paper.

The challenges faced during the delivery of this component ranged from lack of authentic data on services to developing consensus on performance indicators against which the grants will be released. Looking forward the future challenge is political will for allocations of funds for Performance grants, lack of credible base line against agreed indicators and establishment of transparent mechanism for setting performance targets; measuring performance and release of funds.

4. **This TA has pioneered the introduction and integration of ICT in urban utilities**. It started with Pakistan's first Water and Sanitation Hackathon, held in 2012, to develop mobile/Geographic Information System (GIS)-based solutions to problems faced by urban utilities. ICT was then used to develop mobile apps for a socioeconomic survey in urban slums and a customer survey in Faisalabad and Peshawar, respectively; a GIS based dashboard with marked locations of 251,851 households including their images and allied details in Peshawar; and acquiring dedicated (SMS) short codes for four urban utilities. Over 700,000 SMSs were exchanged between utilities and customers ranging from complaints launching to complaints redress and from feedback on services to general awareness including bill alerts. A note on institutionalization of ICT in Punjab was also prepared and submitted to the Go Punjab.

Looking forward it is expected that ICT integration in utilities will continue as it has gained enough momentum not only under this TA but also the government is also pushing for this as a cheap, authentic and quick tool for communication and governance.

5. **A 100 percent door to door customer survey is the haul mark of this TA.** This TA helped the new urban utility of Peshawar, a city of 1.8 M people, to enhance its customer base from 77,500 to 251,851 in less than one year (since September 2014) as a result of customer survey. The survey detected 108,351 illegal connections which had not received or paid water bill for over 30 years. The survey – based on an android mobile - web application – resulted in a GIS-based dashboard with features such as image and inventory of properties in the city with complete data like connection type, property type, and financial history related to water and sewerage connection and bill. The survey established the Union Council (UC) wise ranking of WSSP based on citizens' perceptions that included the survey questionnaire and focus group discussions. The survey also captured the citizen's perception about services, willingness and affordability to pay for the services, and UC-wise recommendations for improvement of services. This initiative was delivered as a state-of-the-art ICT solution to address future needs of WSSP in relation to customers.

Looking forward the utility has to integrate the dashboard (and its information) into it planning process to make informed decision like financial allocations, new infrastructure and administrative changes. Although the top management of the utility is committed to send water bill to all newly detected illegal customers however recover of tariff/charges will be a challenge keeping in view the volatile law and order conditions of the city which is in the fore front of war against terrorism in Pakistan.

6. **In 2013, Faisalabad Water and Sanitation Agency (F-WASA) established a Citizen Liaison Cell (CLC)** as Pakistan's first pro-poor unit in an urban utility with a dedicated staff and focus on addressing the extension of services to urban poor. This TA supported F-WASA in addressing the institutional aspect of services to urban slums on which F-WASA has been struggling since long. On one hand F-WASA does want to connect them but the peculiar nature of slums – social and legal aspects – requires out of box solutions to achieve the desired results. CLC selected three slums as pilot – based on demand and proximity to existing infrastructure – and carried out a socio-economic survey. The initial findings from one of the pilot slum (Shahbaznagar UC 20) revealed that residents were spending an average of Rs. 1,260 per month (US$12.6/month) on water through tankers and donkey carts, while WASA-connected houses were billed a flat rate of Rs. 150 per month (US$1.5/month). CLC has supported F-WASA in extension of services to nearly 50,000 urban poor in two pilot areas while replication of learning is in an advanced stage in four more slums, with a target beneficiary population of around 60,000. In total, CLC has influenced Rs. 67.5 million (US$ 6, 75,000) of F-WASA investment in the last two years (2013-2015) for extension of services to unconnected urban poor.

Looking forward the CLC has to act as "voice of urban poor" on the decision table to make sure that every year F-WASA allocate portion of its funds to extend services to urban poor. However this will be a challenge as CLC has to create demand for services, bridge the trust deficit between F-WASA and slums dwellers and work with slums community groups to ensure sustainability of services in the connected slums.

7. **This TA supported the management of ten large urban utilities and development partners to agree on formulation of Pakistan Water Operators Network (P-WON)** as a national platform of urban utilities. The main objective of PWON is to promote the culture of curation, generation and sharing of knowledge among utilities**.** This TA supported P-WON in finalizing its business plan, getting it registered with the Social Welfare Department as a not for profit institution, and bringing 10 urban utilities and partners (UN-Habitat/G-WOPA, UNICEF, WaterAid, Japan International Cooperation Agency (JICA) and Urban Unit GoPunjab) together to review the performance of P-WON, and developing a new strategy for the promotion of peer-to-peer learning. All the partners are chipping their resources to operationalize and strengthen the network. Under this TA the urban utilities and development partners organized several thematic workshops to discuss share and learn from each other the challenges and achievements in their utilities. The PWON ha sit own website, has produced two "Data books and national Directories of service providers" and is establishing with other regional and global networks.

The challenge faced in operationalizing the network is continued interest of the utilities to share knowledge and seek support from network. This means that the network has to work on both demand and supply aspects to sustain its momentum. The quality of support offered by the network to utilities is also crucial. Another critical future looking challenge is sustainability of the network to recover its operational cost from services it offers.

8. **This TA supported in raising the profile of Nonrevenue Water (NRW) to the highest level in Punjab**, Pakistan**.** One of the key area affecting the performance of the WASAs is high NRW figures. NRW — a key measure of both technical and commercial performance — ranges from 33 percent to 55 percent in the WASAs. Estimate suggest that five WASAs are losing 359 million cubic meter (m^3) of water per year on account of NRW which is roughly US$31 million/year including electricity cost of pumping water that is not resulting in revenue. If only 60 percent of this water is saved, through plugging leaks, it will be enough to provide over 660,000 new connections serving over 4.5 million population in five cities. The additional revenue potential from new connections is over US$21 million/year. F-WASA was identified as the pilot WASA to innovate a 'Performance Based Contract (PBC) to Reduce NRW.' Under this TA, a detailed technical study was carried out to outline technical aspects such as packaging and scope of the PBC, tentative cost of PBC, performance incentives and selection of zone within the WASA for PBC. F-WASA is producing 20,500 m^3/day and the NRW estimate is about 55 percent. The NRW is causing an annual loss of US$4.0 million/year) to F-WASA. The PBC NRW reduction pilot will target to save 40 percent of the total 55 percent of NRW in selected zones, that is, 82,000 m^3/day of the total 205,000 m^3/day production. Even half of the saved water will bring in 73,000 new customers and benefit about 500,000 residents of Faisalabad city. The new connections will bring an additional revenue of US$2.0 million/year if the volumetric tariff of US$0.09/$m^3$ is applied.

Future looking challenge will be to roll out the PBC through international bidding.

Background and Overview of Technical Assistance

9. In Pakistan, none of the urban utilities is recovering its operating cost, delivering 24x7 services; neither do they have a well-thought-out master plans, well performing customer centers, robust revenue enhancement strategies or customer charters. The fiscal flow from provinces is skewed and offers perverse incentives as these are neither based on performance nor tied to performance enhancement but merely used to subsidies operation and maintenance and cover the inefficiencies of the utilities.

10. Weak articulation of the (urban) sector's vision coupled with weak capacity and skills at the service delivery level is considered a major block to improved sector performance. The government (administrative departments) and utilities are cognizant of the situation and striving to improve sector performance by undertaking various initiatives from performance benchmarking to setting services standards, and from performance grants to ICT integration for effective monitoring and communication, and many other fields which are core areas of this TA. The municipal water and sanitation sector in Pakistan is characterized by high access to infrastructure (91 percent access to improved water supplies and 72 percent access to latrines) but extremely low access to quality services (<30 percent safe consumption of water and no one is safe from the risks of unconfined excreta). This is rooted in a context where there is an overt focus on the creation of assets rather than quality of services from those assets. In spite of the relatively high levels of access to improved infrastructure, the quality of access to services is poor and deplorably low. Like in many other developing countries, the thrust in Pakistan has been on "infrastructure" and not on "services".

11. This TA was implemented in parallel to another recently delivered TA "Strengthen Urban Policy and Institutions in Pakistan – P131971" which focused on policy and institutional reforms. That TA had successfully (i) supported the government in establishing efficient, autonomous and responsive utility in Peshawar; (ii) facilitated the provincial/regional governments in formulation of water sector policies; (iii) designed a demand-based "Pakistan Water Sector Technical Advisory Program" for clients; and (iv) strengthened and aligned the urban (water) reform agenda in three provincial urban units through the national urban forum. The capacity development and innovations angle – to sustain the policy and institutional reforms initiatives of P131971 – were covered under this TA (P131985). The objective of this TA was to support urban service delivery institutions in overcoming internal efficiencies and capacity building to achieve the desired outcome. The support under this TA targeted outcomes at the grass root level and anchored at utility level with the longer term objective to institutionalize the initiatives at both utility and at the provincial levels.

Table 1: Results Framework

Intermediate Outcome(s)*	Indicator(s)*	Project Outputs (Annexures)
Policy/strategy informed	• Policy on "Performance Grants for Punjab WASAs" developed under this TA	Draft Policy and Strategy Paper, Executive Summary "Performance Grants for Punjab WASAs"
Client capacity increased	• New innovative solutions: GIS based maps for utilities • ICT (web-mobile based) solutions developed and integrated in utilities	GIS dashboard of customers - Peshawar GIS dashboard of urban poor - F-WASA ICT applications developed and integrated
Knowledge deepened	• The pro-poor unit established and about 100,000 urban poor connected with improved services	Institutional set up of pro-poor unit in Faisalabad
Innovative approaches & solutions generated	• Facilitated exchange of knowledge through national platform, • Facilitated exchange of best practice • Technical Study on Performance Based Contract for Reduction of NRW[1]	Proceedings of P-WON Workshop Technical Study on NRW

Process

12. The components of this TA were demand based for which either the government has formally requested for support or were consensually agreed during the consultative sessions. The process for delivering the TA was based on holding consultations, carrying our analytical and diagnostic work, establishing partnerships, ensuring ownership up to the highest level within the utility and at the provincial government level, leveraging finances, incorporating global lessons, exposing utilities to international best practices, and capitalizing on the existing opportunities.

13. Technical support was extended to utilities to address their internal inefficiencies by showcasing and internalizing latest trends and approaches to enhance service delivery and outreach to citizens. International sector experts were engaged to share global knowledge with the utilities and utility staff was exposed to best practices in East Asia and Africa regions. The TA carried out an extensive analysis of fiscal transfers to five large utilities of Punjab and proposed innovative solutions in fiscal management for converting utilities from 'Net Drain to Gain.' The TA introduced new concepts such as ICT, PBC to reduce NRW, and pro-poor approaches for the very first time in the water and sanitation sector in Pakistan. Partnerships and leveraging of resources are the hallmark of this TA. The intervention of PBC to reduce NRW under this TA was fully designed and delivered jointly with the operation's team of the World Bank's Water Global Practice. The areas of support under this TA were in alignment with the government's overall agenda for the sector in terms of extension of services and enhancing the capacities of urban utilities.

14. South-South exchange model was adopted to expose clients to the best practices around the globe during implementation of this TA. The clients were exposed to innovate models, governance arrangements, institutional set ups and citizen engagement approaches to learn from and were supported in localizing them in their context. About 20 senior policy makers and managers of utilities were exposed to pro-poor institutional set ups in Kenya, utility institutional models in South Africa, service delivery innovations in Brazil. Not only the clients were exposed to other countries but experts from other countries were also invited to Pakistan to have an in-depth session with clients. The former MD of eThekwini water was invited to Peshawar and he spent 4 days with utility management, BoD and met with senior political leadership of the province to share his experience of urban reform in UWSS sector.

[1] This was an additional activity not planned at the project concept note stage of this TA but undertaken during the TA as it was relevant and requested by the client.

Intermediate Outcomes and Outputs

15. Policy/strategy informed: policy on "Performance Grants for Punjab WASAs"

GoPunjab has a vision to reach out to 100 percent population in five large cities and extend water and sewerage services to them by 2018. The WASAs are charged with the responsibility to fulfil the vision of the government but it is highly unlikely as the present fiscal and institutional structure of the WASAs serves as perverse incentives. Like other service delivery institutions, the WASAs also receive funds (for Capex and Opex) from the provincial government under the Provincial Finance Commission (PFC). The PFC formula is skewed towards population and lack of infrastructure, and does not account for performance or incentivized performance. Budgetary support of the WASAs by GoPunjab is an avoidable burden on the government's resources and GoPunjab diverts substantial funding from other essential social sectors to the WASAs. Consequently, these WASAs are a burden on GoPunjab as they draw substantial funding for their development and operating shortfalls. Table 2 shows that between 2010 and 2013, the revenue receipts of the five WASAs of Punjab was Rs. 42,548 million (US$[2]425 million) of which Rs. 21,100 million (US$211 million) or 49.5 percent came from the Government of Punjab (GoPunjab) as an operation subsidy; the WASAs generated only Rs. 13,000 million (US$130 million) or 31 percent of the total. As can be seen, the WASAs of Punjab are nowhere close to becoming self-sustaining.

Table 2: WASAs' Receipts 2010-13

WASA	GoPunjab	UIPT	Own Source/ Deposit Works	MPA/MNA/ Other/CDGL	Donor	Total
Lahore	9,390[3]	1,948	8,496	1,269	0	**21,104**
Faisalabad	3,040	520	1,866	93	6,487	**12,006**
Gujranwala	1,645	189	468	58	0	**2,361**
Rawalpindi	675	488	1,170	254	0	**2,587**
Multan	1,558	1604[4]	954	409	0	**4,526**
Total	16,308	4,749	12,954	2,083	6,487	**42,584**
GoPb: Includes sums provided by the Punjab Government under the heads of ADP, PSDP and Grant in Aid.						

CDGL: City District Government, Lahore; MNA: Member of National Assembly; MPA: Member of Provincial Assembly; UIPT: Urban Immovable Property Tax

This gap shows the financial vulnerability of the WASAs to providing adequate services to the fast growing urban areas of Punjab. Financial woes of the WASAs are compounded by the fact that significant financial inflows are lost each year due to NRW, poor collection efficiency, and inefficient management of fiscal flows.

The diagnostic work confirmed that the WASAs were highly dependents on the provincial government for development work and operational expenses. Their poor performance in billing and collection and huge arrears, in some cases for the last 20 years, were reflected in the ledgers, and a substantial portion of revenue was lost due to high NRW. Some of the findings are reflected in Table 3.

Table 3: Fiscal and HR data of WASAs (2010-13)

[2] average conversation rate in 2014-15, 1 US$ =Pakistan Rs. 100
[3] Amount provided by GoPunjab includes Rs. 400 million provided by JICA.
[4] Includes Rs. 1,372 million as part of the Prime Minister's Package for Multan.

WASA	Subsidy/Own Source Revenue Rs. (million)	Accumulative Arrears Rs./US$ (million)	Total No. of Employees (Budgeted)/Filled	Officers/Non-skilled Staff
Lahore	21,104/8496	2,900/29	6,410/5,799	183/5,616
Rawalpindi	12,006/1866	600/6	1,282/1,204	23/1,181
Gujranwala	2,361/468	1,625/16.2	834/651	16/635
Faisalabad	2,587/1170	663/6.63	2,692/1,883	80/1,803
Multan	4,526/954	650/6.5	1,662/1,295	32/1,263
Total	42,584/12954	6,438/64.38	12,880/10,832	334/10,498

This TA supported GoPunjab's request to formulate a draft policy on "Performance Grants for Punjab WASAs" for effective utilization of funds. A committee was notified by GoPunjab under the Secretary HUD and Public Health Engineering Department (PHED), with representation from the Finance, Planning and Development Departments, WASAs and City District Governments to oversee the policy formulation process. To turn the WASAs into performance-oriented organizations, a program for performance-based grants, over and above all current transfers, for WASAs was agreed with GoPunjab. This performance-based grants program was built on an earlier initiative of 'Performance Benchmarking in Punjab WASAs.' The Terms of Reference (TORs) were developed for hiring a fiscal transfer's expert to formulate the policy. The expert met with the committee, conducted several rounds of meetings with the WASAs and other stakeholders, and presented the draft findings of the policy in three different sessions.

The draft policy paper emphasized the conversion of the WASAs from 'Net Drain to Gain' institutions through a range of short- and medium- to long-term reform strategies. The draft policy paper's objective is to create self-sustaining WASAs which are no longer a burden on the Punjab government's budget so that budgetary resources can be released for other functions of government. The draft policy paper targets the achievement of operational sustainability in three to five years and total independence from the budget in five to seven years. The paper proposes:

a. **Short term:** Institution of incentives for better organizational performance based on the understanding that a program of performance grants for successful WASAs can create the right incentives for performance orientation in the WASAs; and
b. **Medium to long term:** Revamping the WASAs' governing structures to convert them into performance-oriented corporatized structures.

The draft policy paper proposed that GoPunjab freeze its current budgetary support and augment resources with a performance grants fund that could be tapped by the WASAs for performance improving projects. The performance grants fund with an initial endowment of Rs. 10 billion (US$100 million) could be set up initially, later to be augmented by donor funds as well as municipal bonds and bank financing.

At the initiation of the performance grants window program, each WASA's management will sign a contract with its empowered Board of Directors which will be endorsed by HUD&PHED. This contract will bind the WASAs to perform in line with the government's expectations. The contract would include:

- ✓ A mission statement from each WASA which highlights quality customer service as a primary goal;
- ✓ A viable three-five-year business plan tied to the financing and performance indicators; and
- ✓ A plan to provide services to the urban poor.

The draft policy and strategy paper, along with executive summary, were submitted to GoPunjab for implementation. It is expected that, in the next fiscal year (FY 2016-17), GoPunajb will amend the PFC formula and will top up with a performance window endowment.

Outputs:

Executive Summary of Performance Grants – Annex A
Draft Policy and Strategy Paper of Performance Grants – Annex B

16. Client Capacity increased – innovative GIS and ICT (web-mobile) solutions

The TA supported urban utilities in developing and integrating innovative ICT solutions for communications and revenue enhancement.

Mobile tele-density is a term used for the number of mobile phone connections for every 100 individuals living within an area, has grown in Pakistan from 3.4 percent in 2002-03 to 79.8 percent in 2015. Smartphone penetration grew at a steady pace from 13 percent in January 2013, 23 percent in January 2014 and 31 percent by January 2015. Telecom has become the fastest growing sector in Pakistan in the last five years. In early 2013, WSP introduced the idea of "use of mobile applications" in service provision in the urban utilities of Pakistan. Pakistan, being the fifth largest country with respect to mobile usage, clearly qualifies for applications that are built around the mobile phone to run, monitor and control projects and processes. With 139.9 million subscribers (185 million population), Pakistan has the highest tele-density – 79.8 – in South Asia. The urban areas of Pakistan have carpet mobile coverage and other sectors (banking, especially) have made tremendous progress in integrating mobile services into their operations. The concept – which WSP introduced under this TA – was to use mobile phone as a tool for two-way communication (between the utility and its customers) for proactive governance, monitoring, feedback and information sharing. The Water and Sanitation Hackathon held in December 2012 in Lahore introduced the concept of mobile applications to address water and sanitation issues of urban utilities. Post Hackathon, the utilities were supported under this TA in the following ICT initiatives:

- ✓ Custom made mobile applications for a socioeconomic survey in urban slums of F-WASA;
- ✓ Comprehensive mobile-to-web application for a door-to-door customer survey in Peshawar for WSSP;
- ✓ Interactive Voice Response (IVR)/robocalls for customers of Lahore, Rawalpindi and Faisalabad WASAs and Karachi Water and Sewerage Board;
- ✓ Dedicated SMS short codes for Lahore, Rawalpindi and Faisalabad WASAs and Karachi Water and Sewerage Board;
- ✓ Support to two-way communication (utility and customer) through 700,000 SMSs on various aspects of services that facilitated both customers and utility;
- ✓ Linking utilities with mobile service provider companies for payments of utility bill through mobile phones; and
- ✓ A concept note was shared with GoPunjab on "institutionalization of ICT in Punjab WASAs" that proposed ICT wings in each WASA and provided details on the wing's alignment within the WASAs' organogram, proposed HR and hardware requirements, and process of internalizing the wing in the WASAs operations.

This TA supported WSSP in developing a fully digitized solution featuring a mobile application for a door-to-door survey, and a GIS dashboard of 251,851 customers with complete billing history of all customers on a click.

The objective of the door-to-door survey was to:

- ✓ Enhance WSSP's customer database;
- ✓ Engage citizens in WSSP services;
- ✓ Develop a baseline on services based on citizen interaction; and
- ✓ Build capacity of WSSP in updating the database.

The combined 1st and 2nd quarter bill demand of WSSP was Rs. 69.75 million (US$697,500) at the rate of Rs. 450/quarter (US$1.5/quarter) to 77,500 customers while the third quarter bill will be sent (in September 2015) to 251,851 customers – which is three times the number of original customers. . The bill amount for the third quarter is Rs 113 M (US$ 1.13) which is Rs. 78.46 million (US$784,669) more than the last quarter's total.

The android app based door-to-door survey which was the first of its kind in Peshawar provided ground level information about customers to WSSP. The survey focused on the service coverage, level of service, and also the tariff paid by the customers.

The survey was targeted to assess awareness and understanding of the customers regarding municipal services and help WSSP analyze social aspects related to water and sanitation such as citizens' perception about existing services, demand for improved services, willingness to pay for improved services, and affordability to pay for services.

Lastly the project delivered the 'analytic dashboard' to support the WSSP in establishing a database of customers with water and sewerage connection details and relevant information.

- The dashboard can also be customized to identify pockets in Peshawar where the service level is poor so that the utility can develop a special program to reach out to those areas;
- The dashboard rank UCs on the basis of level of service provision;
- The dashboard is designed in such a manner that it is a live interface of the current information with the capacity to upgrade as per the needs of WSSP;
- The dashboard provides a view of the present statistics on customers based on a door-to-door -survey, along with current and potential customers. It shows the areas categorized with coloropeths;
- Based on this information, the WSSP planning team can easily identify areas where service improvement is required. Similarly, the dashboard has the capacity to include further GIS enabled layers to help WSSP integrate a further database;
- Numerous layers such as a water supply network, wastewater network, and locations of tube wells and disposal stations can be integrated into this system;
- The dashboard can also help WSSP identify areas with service coverage to increase the billing area and eventually increase WSSP's revenue. They can then integrate the billing system with this dashboard and generate computerized bills;
- At present, the basic analysis was segregated into water, sanitation and solid waste management for WSSP. The analytic dashboard acts as a tool that helps WSSP to analyze baseline data collected during the survey and use it for better planning of projects and operational improvements in water and sanitation services of Peshawar; and
- The dashboard contains an overall analysis of connections, clustering of connections per UC, statistical view, graphical analysis of services and WSSP familiarity

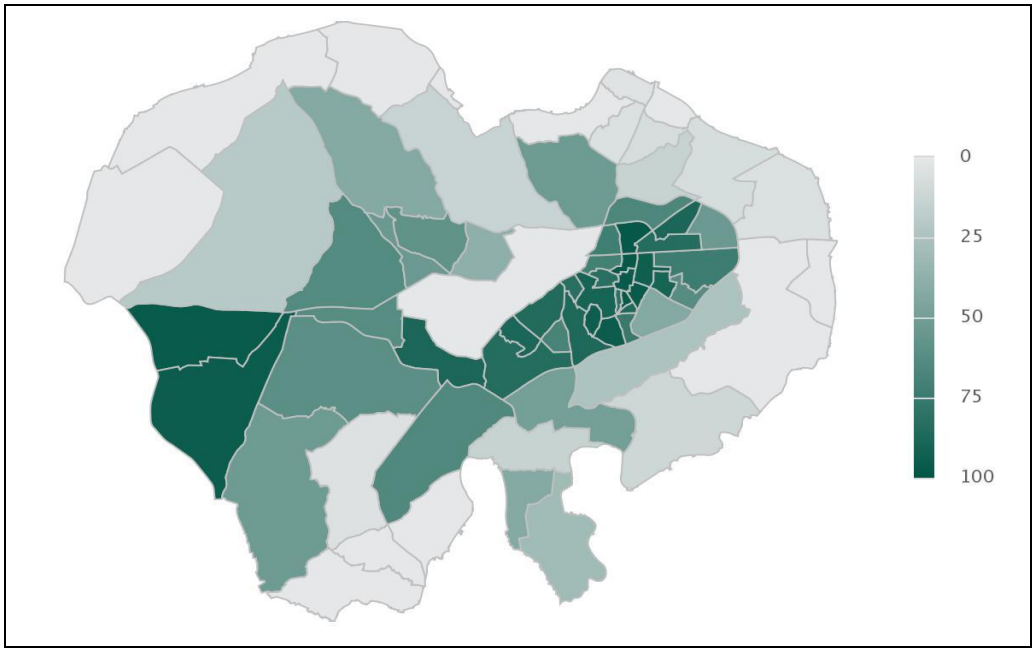

Figure 1: Digital map of water supply coverage in 66 Union Councils

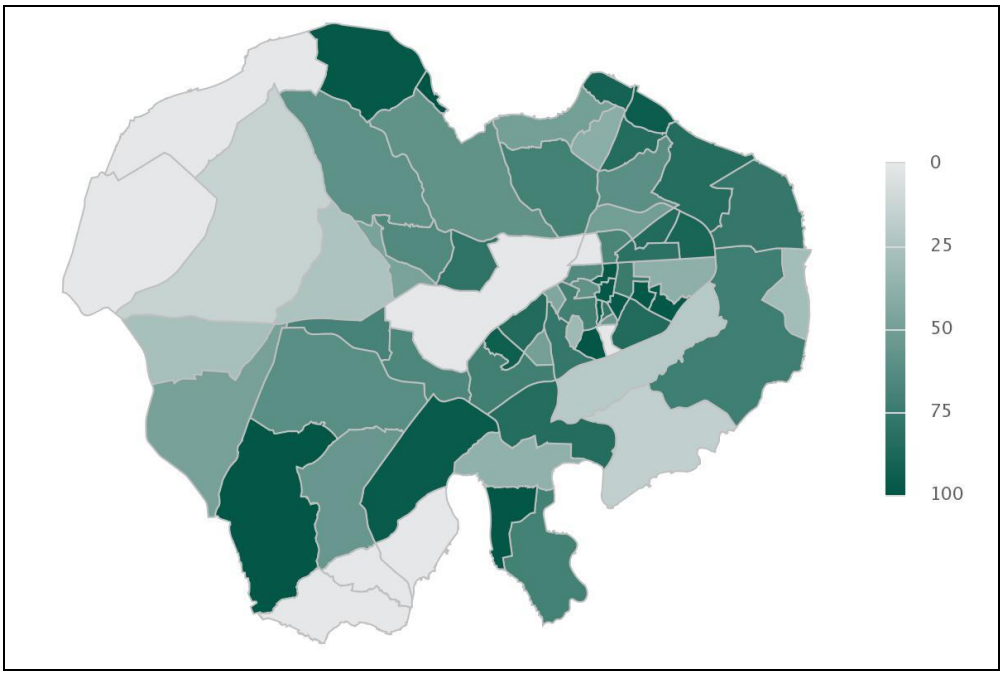

Figure 2: Digital map of sewerage connections in 66 Union Councils

Outputs:

Analytical Report Customer Survey WSSP – Annex C
Information on Dashboard WSSP Customer Survey – Annex D

17. Knowledge deepened - the pro-poor unit established and about 100,000 urban poor connected

In 2011, GoPunjab executed an innovative project for the extension of water and sewerage services in urban slums in Lahore by directly involving the beneficiaries in payment of a percentage of the capital cost of the project. The project had three major stakeholders: Lahore - WASA, civil society and the beneficiary community. In 2012, GoPunjab decided to replicate the Lahore model in F-WASA and made budgetary allocations. The Managing Director of F-WASA requested WSP to share global lessons in extension of services to the urban poor to invest the allocated funds in an informed manner.

F-WASA provides water to about 60 percent of the population through 110,000 connections while the remaining 40 percent is dependent on vendors for water. The majority of the unserved population lives in urban slums and pays six to eight times more than what WASA charges to its customers.

This TA supported F-WASA in provision of services to the urban poor with a focus on the 'institutional aspects' for sustained results rather than 'project approach'. F-WASA was exposed to the pro-poor experience of Kenya, South Africa, Uganda and other African countries and in localizing the global lessons into the Faisalabad context. This TA also established a partnership between the Urban Unit, UNICEF, WSP and F-WASA to set up a pro-poor cell or the CLC in F-WASA to serve the urban poor. The partners together developed the vision, mission, institutional structure, and business plan of the CLC and supported it in providing HR to implement its business plan. CLC, as the voice of the urban poor, effectively supports F-WASA in extension of service to the unserved poor urban population and hence has contributed in achieving the Punjab Chief Minister's objective of "100 percent access of water and sanitation by 2018 in five large cities."

Private vendors filling water cans in Faisalabad.

CLC facilitated the extension of services to about 50,000 people in three pilot urban slums in Phase I against the target of 100,000 which was set under this TA. CLC, being the first of its type of wing in any urban utility in Pakistan, is fully operational with dedicated human resources and funds.

CLC's mission, vision and strategy were formulated with the support of international experts in the area. International experts were invited to F-WASA to support the program and the F-WASA staff was also exposed to models in Kenya and South Africa.

CLC is promoting following two options for service delivery and sustainability:

- ✓ Formulation of Water and Sanitation Committees (WASCOs) within the slum who take responsibility of bill distribution, tariff collection and submission to WASA. WASCO also act as watchdog to ensure that infrastructure is protected against any vandalism and report WASA any complaints in services; and

- ✓ The slum dwellers receives services and pay bill directly to WASA.

As per policy all new connections in F-WASA are metered and same policy is applied to slum dwellers. The new water connection fee is Rs 10,000 (US$ 10) which is charged in 10 equal installments from slum dwellers.

The TA heavily focused on institutional aspects of CLC for sustainability and developing this concept as a 'program; rather than a 'project'. Social mobilization, GIS and ICT experts were hired as staff for the first time in CLC, F-WASA. Resources were leveraged from partners like Urban Unit, GoPunjab provided dedicated support for ICT and GIS initiatives of CLC and UNICEF gave a grant of US$ 200,000 for the construction of a localized wastewater treatment plant for one of the pilot slums.

Three layered GIS maps were developed to identify the urban slums and their proximity to water and sanitation infrastructure. Layer I of the GIS map contains the water infrastructure of F-WASA, Layer II contains the sanitation infrastructure and Layer III has all the urban slums without access to water and sanitation services. In Phase I of the program, the slums closer to the infrastructure were targeted to bring them into the net without spending much on new infrastructure. Extensive social mobilization campaigns were designed and implemented by CLC and community groups were established.

In selected pilot areas, a socioeconomic survey was carried out to determine the status in the area before extension of services. A dedicated mobile-web application was developed for a door-to-door survey and CLC/F-WASA staff was trained in using the android-based survey and GIS interface of the application (http://202.166.167.115/shahbaznagar_fsd/). The

CLC team plans to carry out a post services socioeconomic survey in three pilots after one or two years of completion of services. All new house connections in the three pilot areas are metered as per F-WASA policy for which CLC staff carried out the social mobilization.

In Phase II, four more areas were identified, where the community is willing to receive services and F-WASA is spending over Rs. 50 million (US$0.5 million) on water and sewerage infrastructure which will benefit about 60,000 people.

Gujranwala and Lahore WASA has also showed interest in replicating the CLC in their respective WASAs. A delegation of both WASAs visited F-WASA CLC to understand the institutional, HR and financial requirements. Both WASAs have submitted plans for their CLC units to HUD&PHED for allocation of funds.

Outputs:

A WSUP Notes on CLC - Annex E

18. Innovative approaches and solutions generated

a) Facilitated exchange of knowledge through national platform

P-WON is a platform to facilitate 'water and sanitation operators' in Pakistan to fulfill their responsibilities through discussions, networking, lessons sharing and research. It was launched in March 2011 with the support of WSP and has a vision "*to maximize the effectiveness of urban water and sanitation utilities to deliver superior services, particularly to urban poor, such that the Millennium Development Goals (MDGs)/Sustainable Development Goals (SDGs) for water and sanitation are achieved*". P-WON is governed by a Steering Committee comprising 16 members, including 10 water utilities, WSP, JICA, UNICEF, WaterAID, UN-Habitat/G-WOPA and Urban Unit as observers and with one national coordinator. Table 4 lists the utilities that are Steering Committee members of P-WON.

Table 4: Utility members of the P-WON Steering Committee

Name of Member Utility	Number of Connections
Karachi Water and Sewerage Board	1,091,255
Lahore Water and Sanitation Agency	587,595
Faisalabad Water and Sanitation Agency	110,452
Water and Sanitation Services Peshawar	251,851
Gujranwala Water and Sanitation Agency	29,372
Multan Water and Sanitation Agency	43,996
Capital Development Authority	67,827
Rawalpindi Water and Sanitation Agency	92,468
North Sindh Urban Services Corporation	30,000
Quetta Water and Sanitation Authority	67,600
	2,372,416

This TA supported in registering as a not for profit entity and preparation of business plan. WSP, under the auspices of P-WON, organized two international training sessions for utility managers in collaboration with the World Bank Institute in 2013 and 2014. In the last two years, partnerships were forged for the sustainability of P-WON. JICA provided space in the WASA's academy, a training academy funded by JICA, for P-WON's Secretariat to host the coordinator and research associates. WaterAID is funding the position of the national coordinator for three years (2015-18) and the Urban Unit is bearing the cost of two research associates. UN-Habitat/G-WOPA is linking P-WON with global WOP and sponsoring training of P-WON members as well as utility staff in various disciplines in East Asian countries.

Outputs:

Proceedings-P-WON-4th Annual Meeting – Annex F

b) Technical Study for Performance Based Contract for reduction of NRW

The technical study on reduction of NRW in F-WASA is 1st in depth study which has looked into allied aspects of performance based contract. The study focused on selection of DMZ for pilot, estimation of leakage using step test and other methods, scope of work for pilot contract, contract modalities, institutional and financial arrangements, and combination of international and national human resources, goods and works for the pilot contract and cost estimation of the pilot. The study weights various options and scenarios based on other global experiences and localizes them in the context and ground realities of F-WASA. The study contributes to formulation of Performance Based Contract document which the GoPunjab will roll out for implementation.

NRW reduction was identified as one of the recommendations of the "Pakistan Water and Sanitation Sector Note" and GoPunjab requested technical assistance from the WSP under the Technical Advisory Program (TAP).[5] In 2014, during the annual session of P-WON, NRW was identified as the most urgent and largest drain affecting the performance of urban utilities. In April 2014, the urban utilities of Punjab identified addressing of NRW as the top most priority under the TAP which was also endorsed by the Chairman, Planning and Development Department of Punjab. A TA was requested from WSP for comprehensive program to address NRW in Punjab WASAs. F-WASA was selected as the pilot utility and a technical study was undertaken to develop "PBC for reduction of NRW" under this TA. One reason for the selection of F-WASA was the preliminary work done by an ongoing French project which carried out the helium gas leak detection test in almost the entire distribution network (1,030 kilometer (km) out of 1,100 km) in F-WASA. The French project had also established hydraulic zones in F-WASA. This TA used the existing data and prepared a detailed technical study for bid documents of PBC. International resources were mobilized under this TA for the detailed technical study that fed into the bid documents.

The legal, procurement and institutional aspects – which are important components of PBC - could not be covered under this TA. So this TA only focused on technical study. The remaining elements of PBC contract are being covered in a separate TA which is being financed PPIAF and supervised by the Water GP team.

Outputs:

Technical Study on NRW - Annex G

[5] In 2013, **WSP and Water Global Practice Operations team jointly delivered** the Pakistan Water and Sanitation Sector Note as an economic and sector work. The sector note is comprehensive as it covered four provinces, three regions/states and both urban and rural water and sanitation sectors. The sector note completed an in-depth analysis of institutional, governance, technical, fiscal, policy reforms and regulatory aspects of the water and sanitation sector across Pakistan. The three volumes of the sector note, developed in consultation with federal, provincial/regional line departments, also has recommendations for the provinces and regions to improve the sector's delivery based on in-depth diagnosis. To continue the engagement, with the ultimate objective of designing an operation, WSP and the operation team joined hands to develop the **Pakistan Water Sector TAP.** Specific objectives of the TAP are: i) to assist provincial governments in Pakistan to develop innovative mechanisms to support improvements in water supply and sanitation sector performance, including through the use of incentive-based financing instruments; and ii) to build support for reform and investment in the sector.