# Collective Action for Drinking Water in Urban Sindh

## The problem

Pakistan faces a severe water crisis with surface and groundwater sources depleting at an alarming rate. Riverbeds around the country are drying up. Himalayan glaciers, the source of much of our water supply, are fast shrinking. Water availability which stood at 5000 cubic meters per capita per annum in 1951 shrunk to 1017 cubic meters in 2017, and is now getting perilously close to the scarcity threshold of 1000 cubic meters per capita per annum.

Climate change, rapid population growth, and mismanagement of the water sector, have contributed to the severity of the problem, making Pakistan the third most water stressed country in the world. Further compounding the issue is rapid, and in most cases unplanned, urbanization.

The future of Pakistan is urban. It is estimated that by 2025, nearly 50% of Pakistan will live in urban areas. Sindh, the second largest province of Pakistan, has always been the most urbanized. Post-independence figures show numbers increasing from 29.24% in 1951 to 52.02 % in 2017. Moreover, the province has experienced a rapid increase in its population with total population expected to reach 70 million or more by 2050.

While urbanization provides great opportunities to improve quality of life and to enhance overall income levels of the population, poor quality of urbanization can have the opposite impact, turning cities into hubs of crime, despair, and disease.

Hyderabad and Sukkur are perhaps the worst examples of unplanned urbanization. Due to severe effects of climate change, the two cities rank among the top three hottest cities in the country with poor water availability. Water availability is defined here as the ratio of surface water use to groundwater use, where a large value indicates that water use is more sustainable; Hyderabad and Sukkur have low water availability at 0.4 and 0.9, respectively. Not only are the two cities facing acute water shortage, piped water supplied to households is almost uniformly poor; this is also true for all municipal water across Sindh.

Given the severity of the situation, it seems imperative Pakistan look at various options to solve its problem of supplying clean water to its urban population if it wants prosperity through urbanization.

## The study

The dialogue on the water sector of Pakistan is currently focused on building water reservoirs which will certainly help overcome some water shortage issues during the dry season, but given the gravity of the situation, efforts are needed to look at other possible options to tackle the issue.

Traditional bureaucratic solutions for operating and maintaining the water supply infrastructure have proven unsuccessful. Yet, scholarship and policy discussions remain focused on more of the same, with the emphasis on technological improvement and higher public investment. There is

little research, and even less effort, to involve citizens in the decision making process, although practices in various parts of the show collective action for water-sector governance can be hugely successful.

Other than rapid urbanization threatening the existing infrastructure, there are severe flaws in the designing and operation of water supply schemes, especially in terms of needs assessment. Using Hyderabad and Sukkur as prototypes, this study seeks to answer whether community engagement and participation can improve the supply of water to users in these two cities. The study also explores what type of governance model is most appropriate for ensuring clean drinking water in urban Sindh.

## Findings

The study finds that a comprehensive and integrated water policy is absent in Sindh. Water supplied to households through taps is almost uniformly poor with existing infrastructure in cities stretched to breaking point. Appropriate pricing remains one of the major barriers to effective and efficient governance of water. Collection of dues is another, creating an unwarranted burden for the taxpayer.

There are many flaws in designing and developing water supply schemes. The sector is prone to misappropriation of resources especially when it comes to maintenance and repairs as the distribution network lies underground, making it difficult to track expenditures on maintenance. Water sector projects are also complicated as construction involves subcontractors and is implemented in phases which makes it difficult to apply cost controls. Other common forms of mis-governance are nepotism and political patronage.

The piped distribution network in both Hyderabad and Sukkur is old and in dire need of replacement. A large proportion of water is unaccounted for, lost to illegal connections and leaky pipes. Irregular water delivery service means many rely on private vendors or wells bored into the ground to meet their needs.

The Government of Sindh can gain much by involving the private sector. The Chambers of Commerce of Hyderabad and Sukkur both showed willingness to cooperate with the government to improve the water supply delivery service in their cities. Such partnerships can be mutually beneficially if carefully devised and followed up.

## Recommendations

To ensure the success of public-private partnerships and for improved performance of governance in the water sector the following recommendations are suggested.

### *Improve transparency*

- Improve access to information for stakeholders, and create an environment where people can participate in decisions made to promote a feeling of ownership within the public.

- Involve the community in the budgeting process and encourage scrutiny to ensure efficient allocation of resources. This approach has worked very successfully in other parts of the world.
- All plans should be prepared meticulously and completion time for each scheme should be carefully considered before capital flow is released. The designing, execution and monitoring of each scheme should be known to the public for monitoring and supervision.
- End patronage. Contracts awarded on the basis of patronage and nepotism often lead to flawed construction and increased costs for Operations and Management. Benchmarks for hiring should be openly shared along with performance indicators to end this practice.
- Develop user-friendly websites to meet the needs of citizens and to keep them informed.
- Strict action should be taken to end the problem of ghost employees which is endemic in Sindh's water sector.

***Address pricing and billing issues***

- Prices charged for water supply are low in both cities; this should be revised so that Operation and Maintenance is covered through tariff collection.
- The tariff structure should be rationalized through major improvements in delivery service and quality of water. This will address general dissatisfaction over irregular supply and poor water quality which is the excuse many use to not pay dues.
- Adopting alternate modes of payment such as easy paisa and internet banking will save customers the hassle of long queues for paying dues.
- Ensure consumers cannot bribe bill collectors to waiving their dues.
- Disconnect water supply for non-payment of dues as is done with electricity and gas. One way to do this would be to link the water and electricity bills to enforce payment.

***End overlapping responsibilities***

- Clearly demarcate areas of responsibility between local/provincial, urban/rural sectors. Key areas of concern are the separation of responsibilities for policy making, regulation, and service provision.

***Promote partnerships***

- Develop Community-Government Partnerships for designing, planning and overseeing water service delivery by using models adopted from different countries.
- Such models, when used effectively, can help policy makers in many ways. They can improve understanding of the existing infrastructure, enhance access to information and could help in identifying ways to reduce corruption.
- Outsource ancillary services such as billing, customer service, laboratory services, vehicle maintenance, meter reading, etc., allowing local governments and municipalities to focus on their core competencies.

- Work with University Start-ups for providing cost effective and efficient solutions. National Incubation Centers established across the country can provide useful partnerships on critical water management issues.
- Develop comprehensive city-based water sector plans in partnership with different stakeholders and consumers in the cities.
- Pursue public-private partnerships in developing and maintaining drinking-water infrastructure.

***Monitor water quality***

- Invest in the distribution infrastructure to replace rusty, corroded pipes and ensure improved water quality.
- Rebuild entire pipe networks so that the sewerage network and water supply infrastructure are constructed at a safe distance apart to avoid accidental contamination.
- Ensure that the water supply pipes do not pass through waste water sites.
- Create synergies between the government, academics and the private sector, to access modern and mechanized technologies.
- Develop a nation-wide policy towards mitigating pollution and high levels of waste dumped into rivers. Rather than focus all attention on purifying water in Sindh, the Environmental Protection Agency should ensure water coming down the Indus reaches Sindh without pollutants and toxic waste gathered along the way.
- Develop a proper system of licensing and monitoring the quality of water being sold by private water suppliers in Sukkur and Hyderabad so that they may be held accountable for selling non-potable water.
- Frequent water quality checks should be conducted by the municipality.
- Air pressure relief valves should be installed to ensure pipes do not suck in surrounding water through cracks during load-shedding of electricity when treatment plants run their motors at the same time creating negative energy.

***Set performance benchmarks***

- Set benchmarks for municipal performance. The provincial government should hold local government departments responsible if they are unable to meet their target performance.
- Empower local governments and municipalities to move towards long term goals using sustainable practices, and focus of maintenance.
- Curtail the dependence of local government on the provincial government/international agencies. Even if foreign aid is used for water supply schemes, planning and management should remain in the hands of the local government.
- Sustainable Development Goals (SDGs) provide a useful framework for assigning targets, and the same may be integrated at the level of the managerial staff.

- There should be a careful monitoring of employees to ensure adherence to commitments and responsibilities while increasing their capabilities through training workshops, etc., to create a sense of ownership and pride in their work.