**Grey matters**

BY S H A H Z A D S H A R J E E L 2021-08-16

PAKISTAN is a highly water-stressed country. In our region, water resources and their apportionment are among the chief irritants between upper and lower riparian entities, be it states or their constituent components like provinces and districts.

Per capita water availability has been going down. In 1947, it was 5,600 cubic metres per person; today it is slightly above 1,000 cubic metres. These numbers are worrying not just from the perspective of population increase but also because of the grave health implications of such low availability of water for drinking and hygiene.

Anyone wanting to witness the results of over-exploitation of groundwater and unregulated construction wreaking havoc on natural waterways need only visit Quetta and its surrounding areas. The once abundant orchards are now few and far between.

The iconic Hanna lake presents a picture of desolation for most part of the year.

Inefñcient agricultural practices like flood irrigation waste most of the surface water across Pakistan. Dumping of industrial waste, flows from drainage canals and illegal fishing practices continue to poison freshwater bodies like Sindh`s Manchar and Keenjhar lakes. Decades have been lost in unnecessary debates over which dams to build without realising that in our climatic conditions with high evaporation rates, no number of reservoirs alone will be enough, especially given our wasteful ways.

Our water-scarcity situation calls for immediate action with conservation measures beginning at the household level and continuing upward to include industrial and commercial usage. The well-to-do section of society needs to step up as the poor face the double whammy of no piped water and exorbitant costs for the poor quality of water bought from government and privatesector suppliers.

Grey water, another name for naturally recycled water, is the way to go. The first stroke-of-pen reform governments across the country can undertake is to make the construction of grey-water tanks mandatory for any site plan approval. This means all the water a household consumes with the exception of flush tanks will be stored in grey-water tanks instead of being flushed into sewers. Untreated grey water is not potable but with a few precautions is fine for gardens, lawns and myriad national obsessions like washing cars and driveways.

Another building control requirement can be rainwater harvesting. This could be very helpful in the areas receiving regular monsoon rains. Simply put, all rainwater drains on the property will flow into the grey-water tank instead of being connected to the sewerage mains. To incentivise suchbehaviour change in the population, governments can announce a reduction in property and water conservancy taxes. Tax breaks for the sanitary industry can also lead to homeowners making better choices.

Why would anyone pay a higher price for a stupid fixture when a smart one with options of dispensing quarter, half or full flush tanks can be had at a lower price? An excellent initiative of the PTI government is the constant tree plantation drive all over the country. Positive competition seems to have woken up the Sindh government to the imperatives of green cover as well. The first question that arises whenever the need to increase the green cover, especially in urban areas like Karachi, is broached is `but where will the water come from?` The answer again is grey water.

However, this time around it requires some treatment process albeit natural. A sewage treatment plant (STP) using the reedbed method with a capacity to turn 100,000 gal-lons of wastewater into reusable water costs around Rs3 million. The cost for producing 100,000 gallons of treated water daily would come to around Rs5,000. This water is perfectly suitablefor various purposes including gardening and construction.

Provincial and local governments can auction STP construction rights to the private sector on or near large sewerage mains and junctions. These STPs should be contractbound to provide 30pc of their daily water production to the government for tree plantation and the nurseries that will produce saplings for the green campaign. The remaining 70pc can be sold to the construction industry. A complete ban should be strictly implemented on using potable water for construction. It beats logic as to why freshwater should be used for mixing cement and the tarai of freshly plastered walls. Depending on the number of STPs allocated in a city and the number of households with grey-water tanks, water availability can easily double over a short period of time.

More grey water will enable more plantation leading to more rains and freshwater for drinking, especially for those who have no hope of accessing clean water in the foreseeable future. The PTI would do well to steerclearoflobbyists posingasscientistsif its greening campaign and climate control efforts are to bear fruit.  The writer is a poet and analyst.

shahzadsharjeel1@gmail.com