



# ORSAM WATER BULLETIN

Weekly Bulletin by ORSAM Water Research Programme

Events-News-Politics-Projects-Environment-ClimateChange-Neighbourhoods-Cooperation-Disputes-Scarcity and more



ORSAM WATER BULLETIN  
15 November 2016 – 21 November 2016

**Focus on UAE water scarcity needed more than ever**

Resolving global water scarcity has become “essential to national security”, the head of the UAE’s rain enhancement programme has said.

Alya Al Mazroui, Programme Manager of The UAE Research Program for Rain Enhancement Science, said new technologies need to be found to help counter future shortages.

UAE project officials are among the environment experts and delegates attending COP22 in Morocco, which is focusing on the challenges of climate change and degradation of the environment.

The UAE offers \$5 million per year to scientists, research groups and companies who can turn rain enhancement theories into a reality.

Speaking to 7DAYS, Al Mazroui said: “This initiative comes at a time of rising global populations and diminishing water resources and the need for solutions to ensure global water security has never been greater.

“As water security is essential to national security, countries need to strengthen their own water security options by promoting research, development and investment in innovative technologies.

“Innovative rain enhancement technology could provide sustainable approaches to increase fresh water availability.”

The recent Why Population Matters to Water Resources report by Population Action International estimated by 2035 that 3.6 billion people will be living in areas with water scarcity, largely due to population growth.

The UAE’s Federal Electricity and Water Authority (FEWA), also states each UAE resident uses 550 litres of water, compared to the international average of 170-300 litres per day.

As part of the rain project, pilots have been firing salt flares (potassium and sodium chloride) into the clouds over UAE and Oman to increase the chance of precipitation.

But the technique does not work every time and often the clouds, which typically form over mountainous Oman, have dissipated by the time they reach the UAE.

One of the first awardees is Professor Volker Wulfmeyer, from the Institute of Physics and Meteorology at the University of Hohenheim in Stuttgart, is trying to change that.

Wulfmeyer’s research focuses on improved detection and forecasting of convergence of clouds through improved remote sensing.

If the system works then forecasters would be able to detect clouds at a very early stage, helping pilots to reach them in time. Wulfmeyer has carried out an aerial and land site survey over the north-eastern territories to identify suitable sites to conduct his upcoming research.

Wulfmeyer said: “We found an excellent site in the Hajjar Mountains for the set up and operation of a new combination of observing systems to study wind fields and cloud properties.”

The latest bids for funding are currently being examined and will be revealed in January.

15/11/2016 online at: <https://7days.ae/focus-uae-water-scarcity-needed-ever/96700>

### **Thinni calls in water chiefs after Tobruk protests over failing desalination plant**

In a bid to deal with the problems of the desalination plant in Tobruk once and for all, the Beida-based interim prime minister Abdullah Al-Thinni summoned all the top water resources officials in the east of the country to an emergency meeting today.

Tobruk has been facing water shortages for years, in part because a rise in consumption but also because of declining production at the desalination plant, the result of inadequate maintenance over more than 13 years. Cracked pipes and boilers have resulted in a drop in output. Distribution pipes in the town also need replacing.

Faced with this, the local authorities have been looking at various alternatives over the past year and more – from digging new wells to the construction of a new plant with a capacity of 150,000 cubic metres of water a day.

The money, though, has not been there. In January last year, the Thinni government approved spending of LD6.5 million for urgent maintenance on the Tobruk plant and two others, in Sousa and Butraba, but in the event, only LD 1.3 million was handed over.

It has resulted in a growing flow of complaints from the local council and other officials, and appeals to business, to the House of Representatives, even to the Gulf states and a US company to help find a solution. Nothing, however, has happened.

The problems at the plant have been compounded by delays in salaries to staff, causing further demotivation.

The past couple of weeks has seen a growing local campaign involving the municipal council and some members of the House of Representatives to force action on the desalination plant. It culminated in demonstrations outside the HoR yesterday, Monday. Water company officials were also among those who accused the government of reneging on past promises to fix the problem.

The Thinni government was, though, already aware that action had to be taken. On Sunday, Thinni ordered his advisory committee to come up with proposals on the desalination plant and the related issued of staff salary arrears.

Today's meeting follows from that, although there has been no statement so far on what was decided.

15/11/2016 online at: <https://www.libyaherald.com/2016/11/15/thinni-calls-in-water-chiefs-after-tobruk-protests-over-failing-desalination-plant/>

### **Growers hold protests in Larkana, Sukkur over low paddy price, water shortage**

Paddy growers of various parts of Larkana district on Monday held a demonstration Jinnahbagh gate to demand a reasonable price of their produce.

They raised slogans against the government for not paying heed to their repeated calls for fixing a reasonable rate for their produce.

The protesters marched from Jinnahgate to the local press club where their leaders told reporters that paddy growers were being denied a reasonable rate despite the fact that the price of various paddy varieties in the international market had gone high and rice growers in other parts of Asia were getting given the benefit of this upward trend by their respective governments.

They warned that they would intensify their protest if their demand for a higher price of their produce was not considered and accepted.

The growers whose lands are fed through the Narli minor (irrigation channel) staged a protest demonstration in front of the Ghotki deputy commissioner's office at Mirpur Mathelo on Monday against acute shortage of water in their areas.

The protesters, led by Mohammed Ali Shar, Mohammed Zaman Shar and others, raised slogans against the irrigation officials concerned for allegedly causing an artificial shortage of water.

They told local reporters that water being released in Narli minor was not reaching their lands at the tail-end due to which they had been suffering heavy losses.

They said that farming was the only source of livelihood for hundreds of families living in the tail-end areas but unavailability of water had turned their lands barren.

They alleged that the irrigation officials concerned were selling away the canal water to the influential landowners by diverting it to their lands. The big landowners had also laid illegal watercourses, they complained.

They urged the higher authorities to take notice of the illegal practice and take effective steps against such landowners and dishonest officials in order to save lands of the affected growers.

15/11/2016 online at: <http://www.dawn.com/news/1296389/growers-hold-protests-in-larkana-sukkur-over-low-paddy-price-water-shortage?>

## **‘Punjab will not spare water for Haryana’**

Refusing to accept the recent Supreme Court ruling on the SYL canal which held the termination of water sharing agreements as “unconstitutional”, the Punjab government took a defiant stance with an assembly resolution on Wednesday stating clearly that Punjab would not spare any water for Haryana.

Punjab Deputy Chief Minister Sukhbir Singh Badal on Wednesday dubbed the unanimous resolution adopted by the state assembly to say “no” to river water-sharing with other states as “historic” and said it had given the “final burial” to the Sutlej-Yamuna Link (SYL) canal issue.

Badal, who is also President of the ruling Shiromani Akali Dal, said the assembly’s directions on Wednesday, to the state government and its officers not to allow construction of the SYL canal and to recover money from other states for water supply, were final and binding.

“It is a historic decision. This has given the final burial to the SYL issue,” Badal told the media here after the resolution was adopted.

The assembly directed the Cabinet, government and its officers “neither to hand over any land of the state to any agency for construction of the Sutlej-Yamuna Link canal nor allow anyone to work on this project and give any sort of cooperation for this purpose in the larger public interest”. Punjab Chief Minister Parkash Singh Badal, who has already stated not to accept the Supreme Court ruling and vowed not to let a single drop of water go out of Punjab, moved the resolution.

The special one-day session of the Punjab assembly was convened on Wednesday to protest against the Supreme Court verdict on a Presidential reference that dubbed a 2004 law passed by the house to end a water-sharing agreement as “unconstitutional”. The resolution also directed the Punjab government to demand payment from other states for the river water supplied to them over the past few decades.

It asked the government to seek the Centre’s help to recover water dues from Haryana, Rajasthan and Delhi.

The Punjab government, on Tuesday, had ordered de-notification of nearly 5,000 acres of land acquired for the SYL canal nearly four decades ago.

The resolution was adopted in the absence of 42 Congress legislators who had resigned on November 11 from the 117-member house to protest against verdict. Addressing the assembly, Badal said that Punjab did not have even a single drop of river water to spare and no water would be allowed to flow to Haryana.

Badal said: “The state government will do everything possible to stop water from flowing to Haryana.

We will not implement the (Supreme) Court order at any cost; not a drop of water from Punjab will be given to anyone even if we have to go to jail.”

The assembly also directed the Punjab government and its departments and agencies not to hand over land to any agency and neither cooperate in the construction of the controversial Sutlej-Yamuna Link (SYL) canal.

Taking strong exception to the absence of Congress legislators, Badal blamed the opposition party and its leadership for “betraying Punjab and its people on territorial issues, including river waters”. Amid the escalating water row, BJP legislators from Haryana on Wednesday met Punjab Governor VP Singh Badnore to seek blocking of the Punjab government’s move to de-notify the acquired land.

Led by Haryana BJP President Subhash Barala, the BJP legislators urged the Governor not to give his assent to the move.

The BJP legislators said the Punjab government’s move was in contempt of the Supreme Court verdict.

16/11/2016      online      at:      <http://gulftoday.ae/portal/7be3b068-e8d5-441f-850f-65907321b923.aspx?>

### **Iran’s Looming Water Crisis Leaves Farmers With A Stark Choice**

They were once hailed as the saviours of Iran. Heroes who kept the country alive during decades of international sanctions that isolated the country, during the years of war and conflict. Every grain of rice, every bowl of fruit that Iranians consumed was grown locally by the farmers. They put food on every Iranian family’s table during difficult times when the future seemed uncertain. But today, following the easing of the sanctions, these farmers face an uncertain future of their own.

Over the years, the responsibility of growing crops in a semi-arid nation has taken a huge toll on Iran’s water supplies. The farmers were given over 90% of the country’s water to secure food for the nation and they used it voraciously. Now, there is a growing awareness that the country gambled away its water security in favour of food security and is on the brink of an unprecedented water crisis.

The thousand year old Zayandeh Rud river which used to flow through the city of Esfahan was a shocking, dry riverbed when we went to visit in September. Lake Urmia which was once the largest saltwater lake in the Middle East has now dramatically shrunk to 10% of its former size. The few remaining patches of incredibly salty water have triggered an algae and bacterial bloom that has transformed the once turquoise waters to crimson. A transformation so dramatic it has caught the eye of the international community as well as the despair of the locals. But it’s not only visible bodies of water that are facing a crisis.

Over the past 50 years, Iran has extracted 70% of its groundwater supplies mainly to support farming which uses traditional, yet wasteful, irrigation practices. As the water runs out,

farmers are abandoning their land in their droves and those that cling on are there because they don't see any other path open to them. "I'm illiterate, all I know is farming and my children are the same. How am I going to go and find other jobs? What job can I find?" asks us Mr Esfahandiari, a pistachio farmer aged over 60 years of age living in the province of Kerman. "I expect the government to help us," he adds. Until very recently, pistachios were Iran's main export after crude oil and the Kerman province was one of the largest producers in the world, contributing to a billion dollar industry.

As the wells and dwindling groundwater resources run dry the farmers are left with a stark choice; either reform their traditional, yet wasteful, irrigation practices or abandon their family land for nearby, dense urban centres where they will have find work outside their skill set. As well as this risk of mass migration, the threat of political instability and conflict following such upheaval is something the government is eager to avoid.

"Iran like many countries in the region is facing water scarcity," Masoumeh Ebtekar, the country's Vice President and head of environmental protection told us when we met to interview her for an Al Jazeera film on the water crisis. "We need to change the current water management and water consumption patterns in order to be able to deal with this. We need to have a farming revolution." The government has partnered with international organisations such as UNDP and the Japanese government to create a pilot project focused on retraining farmers in more sustainable irrigation methods. Their first mission; Lake Urmia.

Five million farmers live around the lake and depend on its freshwater streams and rivers for their livelihood. It is the intensive farming of profitable, yet water thirsty crops, such as apples, in the region that tipped the lake out of balance and led to its disappearance. Now those very farmers are taking the charge in bringing it back. Around 300 villages are directly involved in the pilot project which involves swapping out water-intensive crops for more suitable ones and also using updated irrigation techniques rather than simply flooding fields. It's a small start but for farmers like Mr Rahmani, it's already having an impact. "Before we would just flood the field and most of it would evaporate. It was wasted. With this sprinkler irrigation system it's not like that. We have cut our water consumption by 40% or 50%," he explains. "It's made the farmers lives easier, increased yield and reduced cost."

Could a new dawn be rising on the farmers of Iran? Transition is always difficult but after travelling around the country and seeing firsthand the decimation the water scarcity has on the landscape and the people, it's clear that change is absolutely necessary. The farmers have seen the nation through a crisis once before - can they do it again?

16/11/2016 online at: [http://www.huffingtonpost.co.uk/arwa-aburawa/iran-water-crisis-farmers\\_b\\_13004906.html](http://www.huffingtonpost.co.uk/arwa-aburawa/iran-water-crisis-farmers_b_13004906.html)

### **Residents irked over water shortage**

The residents suffered a lot because of water shortage after supply of water was suspended in the city from Rawal dam due to breakdown of electricity to a feeder set up by Water and Sanitation Agency (WASA), sources informed The Nation yesterday.

The water supply got suspended after an 11kv transmission line broke down near Islamabad Club at about 6am.

The breakdown of the transmission line stopped electricity supply to WASA feeder, they said.

The WASA authorities resumed the supply through generators. The authorities, however, have not been able to resume full supply to Rawalpindi urban areas and some areas under MES control in the city through generators, source said.

According to sources, the citizens faced water shortage after supply of water was suspended due to electricity breakdown to a feeder.

They said WASA obtained some 24 million gallons water per day from Rawal dam to cater the daily need of citizens.

The water from Rawal dam is mainly supplied to urban areas of the city and localities under MES control, sources said.

They said that authority could not provide the required water through generators forcing people to buy water tankers or fetch the water from far-flung areas.

The city required some 55 million gallon per day as other sources of water for WASA are 354 tube wells ad water share coming from Khanpur Dam through Rawalpindi Cantonment Board.

Prevalent dry spell had already aggravated the water supply situation in the city. WASA Managing Director (MD) Raja Shoukat Mahmood told media that the water supply got disconnected owing to power failure.

He added that later the authority resumed the supply through generators.

He said that the generators could not provide full supply of water. He noted that the staff had to switch off the generators after every two to three hours to give them rest.

Responding to a question on possible water shortage in the city, Raja Shaukat said that there would be no shortage of water in the city. He noted that the agency stored water from Rawal dam in large underground tanks in different areas of the city.

He said that the water from underground tanks was pumped to overhead tanks to further supply to housing units.

He said that the WASA would store water in tanks to the full capacity using the generators. Raja Shaukat further said that the WAPDA staff had been continuing repair work without any break sine morning.

He hoped that the ISECO staff would be able to complete the repair work sometime on Wednesday night. The electricity supply to the WASA feeder could not be resumed till filing of the report.

17/11/2016 online at: <http://nation.com.pk/islamabad/17-Nov-2016/residents-irked-over-water-shortage?>

### **Water well in Yemeni city almost complete, say Emirates Red Crescent**

A new water well for residents of Mukalla city in the west of Yemen is 70 per cent complete.

The artesian well is to ease the suffering of citizens in Mukalla and suburbs, said Abdullah Al Musafiri, representative of the Emirates Red Crescent in Hadramaut province.

Previously, the UAE humanitarian agency had operated five wells in east of Mukalla to provide clean water in the coastal province, state news agency, Wam said Thursday.

Waheeb Ghanim, director of water and sewage in Mukalla, praised the UAE government for its support.

17/11/2016 online at: <http://www.thenational.ae/uae/water-well-in-yemeni-city-almost-complete-say-emirates-red-crescent?>

### **Potable water right of every citizen: Shehbaz Sharif**

Punjab Chief Minister Muhammad Shehbaz Sharif on Friday said that the Punjab government was implementing a big programme worth billions of rupees for the supply of potable water to the masses.

He presided over a high level meeting here, which reviewed matters regarding Punjab Water Roadmap and Solid Waste Management Roadmap.

Special representative of British Department for International Development (DFID) Sir Michael Barber gave a briefing to the meeting.

The Chief Minister said that provision of drinking water to rural masses would be ensured under Khadim e Punjab Saaf Pani programme.

He said that Saaf Pani programme was a very important project of public welfare and had to be implemented with commitment and determination.

The Chief Minister said that potable water was right of every citizen and Punjab Saaf Pani programme would be closely monitored. He said that a comprehensive programme be evolved in the light of authentic survey for the improvement of water schemes and filtration plants. He said that there was a need for reorganization of all water and sanitation agencies for their capacity building. Shehbaz Sharif said that recruitment against technical vacancies in these institutions and training programme of the staff be evolved with the consultation of experts.

He said that potable water was essential for saving citizens from diseases. He said that a healthy society could be evolved by providing a clean environment to the citizens and added that there was a need for promoting public awareness about the importance of cleanliness.

He said that an effective roadmap would have to be evolved and implemented for improvement of the affairs of solid waste management. He said that targets would have to be achieved with hard work and a sense of responsibility, adding that improvement in living standard of the people and provision of relief to masses was the priority of the government.

Shehbaz Sharif said that all out resources would be provided for provision of better facilities to the citizens. DFID representative Sir Michael Barber said that the Punjab government had performed very well with regard to uplift of health and education sectors.

He said that DFID would work with the Punjab government also in water sector, adding that all out cooperation would be extended to provincial government for the supply of drinking water to rural populace of Punjab.

Approval was also given on this occasion to filling approved technical vacancies of Local Government, Public Health Engineering and TMAs as well as training programme of the staff.

Provincial Minister for Housing Tanvir Aslam Malik, Chairman Punjab Saaf Pani Company South Muhammad Kashif MPA, Chief Secretary, Additional Chief Secretary, Chairman Planning & Development, concerned secretaries, head of DFID in Punjab Ms. Judith Herbertson and members of roadmap team attended the meeting.

18/11/2016 online at: <http://www.app.com.pk/potable-water-right-of-every-citizen-shehbaz-sharif/>

### **UAE University students design water pollutant detection device**

A portable device that can easily detect pollutants in water used for crops and landscaping has been designed and made by four UAE University students.

The project, which is awaiting patent, was created as an alternative to the bulky, time consuming and expensive methods employed by scientists for use in developing countries as well as the UAE.

It will be used to test grey water – waste from household appliances such as washing machines, sinks and baths that contain traces of household cleaning products, dirt, hair and grease – before it is used in fields to avoid contaminating produce.

The device can also detect traces of heavy metals in water, which are measured using Inductively Coupled Plasma. But this is costly, high maintenance and requires scientists to bring their water samples to the lab for analysis.

"Nowadays it is very important to analyse things cheaply," said Thies Thiemann, professor of chemistry at UAEU. "It is a question of cost very often, especially for developing countries where price is definitely a concern.

"You want a device you can take into the countryside that is cheap to run and low maintenance."

Arsenic, cadmium, chromium, lead and mercury are known to induce damage in organs, even at low exposure levels. They are also classified as human carcinogens by the US Environmental Protection Agency and the International Agency for Research on Cancer.

Dr Saber Abdel Baki, who is supporting the project, believes there are many uses for the device.

"Most water supply companies in the UAE have labs and they are working very well in terms of analysing the drinking water, so we don't have to worry about our water here," Dr Abdel Baki said.

"But the point is that here, what we do sometimes have is grey water and that is often put on to the fields or the road-dividers where you have plants. So you have to be sure that you do not put a lot of heavy metals into the ground again."

The main objective was to develop a device that can accurately detect very low concentrations of lead, and at the same time is easily carried and handled, so scientists don't need to carry the sample from the main source to the lab for analysis, said Salma Abubaker, one of the students on the team.

"I was interested in this because I learnt how toxic lead is to the living organisms, especially at low concentrations," Ms Abubaker said. "Also, I was aware of how significant the impact the device will have on water safety, which is one of the most critical topics for people and the environment."

Zeinab Saeed, another team member, said she hoped the device would help developing countries "where dangerous contaminants are still being released into the environment".

"They can't afford to buy very expensive analytical instruments and that is where our device becomes more effective and efficient," Ms Saeed said. "I joined this team because research is my passion.

"Since I was young, I kept reading and hearing about successful scientists who made a lot of contributions to the world and I always wanted to be like them."

19/11/2016 online at: <http://www.thenational.ae/uae/environment/uae-university-students-design-water-pollutant-detection-device>

### **Chandio terms water and power minister's policy 'anti-Sindh'**

Sindh information adviser Maula Bakhsh Chandio has described the policy of the federal minister for water and power as anti-Sindh.

In a statement issued on Saturday, he questioned why the masses were being dragged into official matters.

He condemned the policy of the minister for power, saying that the people of Hyderabad had been facing an acute water shortage for the last two days.

Chandio stated that Hyderabad was a stronghold of the Pakistan Peoples Party. He said that policies of some ministers were creating hate among the people of Sindh.

He warned that the people of his province should not be forced to come onto the streets.

Chandio has been very critical of the federal government's policies towards Sindh.

On November 12, he had told Interior Minister Chaudhry Nisar to stop worrying about Pakistan Peoples Party Chairman Bilawal Bhutto Zardari's age and instead focus on matters of national security.

Speaking to journalists in Hyderabad, he had said that Chaudhry Nisar was one of those elderly men who liked to hide their age. "Bilawal's speeches are liked by the poor. You call him a kid we don't mind. But why do you have issues when he calls you Chacha?"

The PPP leader recalled that the party's founder, Zulfikar Ali Bhutto, was also young but he changed the political landscape of the country. He said that Benazir Bhutto was also criticised for being inexperienced but she left her mark on politics. "Bilawal will be like Benazir. He will leave his mark," he said.

He said that Bilawal was planning to undertake a trip to Punjab and that was making the government worry. "Abhi tu party shuru hui hai," he said. "The PPP is still alive in Punjab."— Online/News Desk

20/11/2016 online at: <https://www.thenews.com.pk/print/166205-Chandio-terms-water-and-power-ministers-policy-anti-Sindh?>

### **Pakistan Wheat crop season: SCA urges Sindh govt to ensure regular supply of water**

Sindh Chamber of Agriculture (SCA) has urged the Sindh Government to ensure regular supply of irrigation water as the sowing season of wheat crop has started.

The SCA's meeting, held at its secretariat here Sunday and attended by farmers' representatives through video link from several districts, pointed out shortage of water in the irrigation system, warning that the scarcity would affect the sowing of wheat crop.

The meeting asked the Sindh Government to approach Indus River System Authority (IRSA) to obtain proper share of water from Indus River for Sindh province for the winter sowing season.

The meeting warned that if due to shortage of irrigation water the wheat crop was affected, the farmers of Sindh would hold the government and IRSA responsible for their losses.

The meeting also expressed grave concern on the performance of Sindh Irrigation and Drainage Authority (SIDA) and Left Bank Canal Area Water Board holding the two organisations responsible for water shortage in Phuleli and Akram canals which pass through Hyderabad.

The growers at the meeting also pointed out violation of Section 144 imposed against the inter-provincial sale of sugarcane crop and claimed that sugar mills in upper Sindh region were buying crops from Punjab.

The farmers at the meeting also expressed grave concern over the continuous sale of harmful and spurious pesticides and fertiliser in the market.

The SCA's President Dr Syed Nadeem Qamar chaired the meeting which was attended through the video link by farmers' representatives from Karachi, Sanghar, Sukkur, Ghotki and other districts.

21/11/2016 online at: <http://www.blackseagrains.net/novosti/pakistan-wheat-crop-season-sca-urges-sindh-govt-to-ensure-regular-supply-of-water?>

### **Water supply, drainage system to be improved at district, taluka levels: CM**

Sindh Chief Minister Syed Murad Ali Shah has said that he has a plan to carry out development all over Sindh and the water supply and drainage system will be improved in district and taluka headquarters.

“The district and taluka headquarters will also be upgraded and beautified,” the chief minister said while addressing local leaders of Sehwan and Dadu taluka who called on him at the CM House on Sunday.

Murad said he was giving special attention to the development schemes.

“I am exerting utmost efforts to utilise Rs25 billion in district and Rs200 billion in provincial the Annual Development Programmes (ADPs) properly for which I keep reviewing development progress,” he said.

The chief minister said he was aware that the villages, towns and cities of rural areas needed water supply and drainage system.

“The government has taken up both the schemes through the district ADPs, the Public Health Engineering Department and the local government.

Now I am trying to take them up through the provincial ADP,” he said.

The chief minister urged the local leaders to personally monitor the performance of the schools.

“You must watch whether the teachers are going to school regularly and taking the classes,” he said.

The chief minister added that each and every individual must extend helping hand to the government for improvement of the education and health services.

The local leaders, who had come from Sehwan and Dadu taluka, lauded the efforts of the chief minister for development of the province. They vowed to cooperate with the chief minister for carrying out development plans in the province.

21/11/2016 online at: <https://www.thenews.com.pk/print/166405-Water-supply-drainage-system-to-be-improved-at-district-taluka-levels-CM?#>

### **Time to take the water issue seriously**

According to experts, water accessibility will decrease by 2020. Even when summaries or feasibilities are made to build new reservoir or dams, it doesn't necessarily mean we are going to add any new natural water sources. It simply means we are utilising what we already have.

Pakistan's population stands at 160 million (approx), which is predicted to double over next two decades, meaning less water per person in the future. With time, there will be a net decrease in water resources accessibility due to population increase, climate change, global warming and irregular exploitation of water resources etc.

International organisations declared Pakistan a water-scarce country in late 90's. Yet no serious steps were initiated by the government. In 2003, water availability per capita declined to an all-time low, marking us as one of the most water stressed countries by World Bank. The New York Times clearly warned in a report that Pakistan will be facing another resource crisis after facing continuing fuel and electricity shortages major water shortages are on their way.

Another report by Asian Development Bank mentioned that a combination of global climate change; waste and mismanagement have led to an alarmingly rapid depletion of Pakistan's water supply. Now, according to the ADB, it has fallen to 1,000 cubic meters per capita. In comparison, the per capita water availability in the US is 6,000 cubic meters, Australia 5,500 cubic meters and China 2,200 cubic meters. The ADB report further stated: “At present, Pakistan's storage capacity is limited to a 30-day supply, well below the recommended 1,000 days for countries with a similar climate.”

UN's World Water Development also summarised in its report that actual renewable water resources in Pakistan have decreased from 2961 cubic meters per capita in 2000 to 1420 cubic meter in 2005.

All such reports are highly distressing. According to the Pakistan Council of Research in Water Resources (PCRWR), Pakistan has an assessed population of 187 million with an annual growth rate of 1.57 percent.

In distressing situations like this government first priority should be to establish water banks ensuring water security and minimising any chance of predictable drought or shortage. Our water reserves are rapidly reducing decreasing per capita water availability, which has almost reduced 80% since 1951.

Our neighboring country, India, stores about one-third of its water supply in reservoirs as compared to only nine percent storage practice in Pakistan. While India has built 4,000 dams, with another 150 in the pipeline, it's been decades since the completion of Pakistan last water storage project. Kalabagh is one of such potential sites, which now needs to be taken seriously. Overdependence on groundwater has reduced its level to alarming limits, including excessive groundwater utilisation by mining industry as federal and provincial government continues to blame each other for the situation without comprehending the significance of the state.

Water tables or ground water depletion in Islamabad and Lahore have dropped to 50 and 20 feet individually. Swift populace growth, unrestrained migration and the formation of several industries have added to amplified water demand. Unmonitored industrial growth has placed massive stress on the nation's water resources. Lahore alone has 2,700 registered industries. Out of which 75 % are consumers of ground water. As a result of this ground water depletion in central Lahore has diminished to 40 meters and is predicted to drop below 70 meters by 2025.

Pakistan also ranks fourth amongst the world's top 10 countries in standings of water extraction. A report published by the Gravity Recovery and Climate Experiment (GRACE) satellite mission of NASA revealed that the Indus Basin aquifer in northwestern India and Pakistan is the world's second most over-stressed. Unregulated groundwater extraction is causing a drastic lowering of the groundwater table depth. In 1987, the depth of water table ranged from 8 to 20 meters. This dropped to 51 meters in 2011.

Water pollution, discharge of waste and unclean drinking water are factors among others that pose a threat to human wellbeing and Pakistan's water reserves. While some do not have water to drink, others waste it in vast amounts. The entire municipal waste of Lahore is collected through 14 main drains and discharged into River Ravi untreated. Industrial waste is also being directly discharged into canals by 271 industrial units. Unsafe drinking water is accountable for frequent diseases including dysentery, diarrhea, typhoid, cholera, malaria and gastroenteritis. According to UNICEF approximations around 200,000 children in Pakistan die yearly due to diarrheal diseases alone. In more than 11 cities of Punjab over two million people drink unsafe water with high levels of arsenic chemical found in it. According to WHO the greatest threat to public health from arsenic originates from contaminated groundwater. Inorganic arsenic is naturally present at high levels in the groundwater of a number of countries, including Pakistan, Argentina, Bangladesh, Chile, China, India, Mexico, and the United States of America. Drinking-water, crops irrigated with contaminated water and food prepared with contaminated water are the sources of exposure.

The food processing industry, pulp and paper, poultry, dairy, plastics, paint, pesticides, leather, tannery and pharmaceutical industries are also accountable for water contamination.

According to estimations around 730 tons of Biological Oxygen Demand (BOD) load is added to River Ravi per day. This is the quantity of dissolved oxygen required by micro-organisms to break down organic material present in any water body.

Our underground water resources continue to deteriorate because of pollution, atrophy, overuse of surface water and over-exploitation of groundwater. Large territories of land have been rendered barren due to water logging and salinity.

Scarcity of water is also affecting forests and trees in Pakistan. The Indus delta has been reduced to one active creek and there is no water flowing downstream of the Kotri Barrage from almost a year. Our mangrove forests, previously some of the largest in the world, have been reduced from 0.6 million acres to 0.25 million acres. The mix of sweet and sea water upholds a very critical balance in the coastlines. If that balance is destroyed, then the entire water system is affected. Pakistan is dependent on a single river system and we cannot afford to take any more chances with the water/sediment/salt balance of the Indus Basin. Irrigation Department had to provide water for 180 days annually but the supply of water had declined to 100 days. The scarcity of water had mainly hit Sheesham trees severely as the die-back disease had attacked the trees and stunted their growth. Recently, forest Department had planted 32,000 trees across Multan and Shujabad areas but abundant water supply is required for their upkeep.

Some procedures that will help regulate the water problem include developing a comprehensive water strategy, complete alertness to educate people setting up an authority for saving groundwater, building off-channel water reservoirs to preserve flood water, application of techniques of efficient use of water, efficient methods for treatment of sewage, building major reservoirs to save water focusing on emerging challenges such as climate change and desertification. Uses of water other than agriculture for domestic use for industry, for urban areas, and for the environment should all be combined for a robust water policy for Pakistan.

21/11/2016 online at: <http://www.pakistantoday.com.pk/2016/11/21/comment/time-to-take-the-water-issue-seriously/>?