

Water Crisis and Water Security in Pakistan

By Sadiqa Noreen

According to the Pakistan Council of Research in Water Resources (PCRWR), Pakistan is 17th on the list of countries facing water crises which means the current situation is prone to deterioration if immediate actions are not taken. The report also says that the country will run out of water by 2025 if enough reservoirs are not built. It must be noted that the current per capita availability of water is below 1000 cubic meter whereas at the time of independence it was around 5000 meter cubic.

However, there are various reasons for the shortage of water in Pakistan but one reason is the rapid growth of population versus the number of reservoirs built to meet the rising demand. The water needs (of estimated 208 million Pakistanis) will continue to rise in the absence of remedial action. Building more reservoirs and dams is just one part of the solution. Apart from this, it is also essential to diversify the water resources. Comparative policies could be adapted from countries like Singapore and Maldives. The former's close loop hydrologic cycle and integrated systems approach to water management, locally known as the Four National Taps, and the latter's use of rainwater harvesting and recycling are effective methods to tackle water shortages.

Pakistan's economy is the most-water-intensive worldwide, this is because the country's economy is largely based on agriculture. Its food security and as well as industrial base depends on the irrigation system, and current irrigation practices are largely inefficient and water productivity is lowest in the Indus basin's irrigated agriculture. New methods, such as furrow-bed irrigation and drip irrigation farming need to be adopted by the government of Pakistan which

could save upto 30pc of water usage and wastage.

One major issue regarding water is not the shortage only, but wastage as well. Millions of liters of water goes to waste because of the mismanagement. Water is an almost free commodity whereas in other countries price is put on water usage. Water meters in residential and commercial areas need to be installed to monitor the use of water. This will not only sensitize the public but also decrease the intense amount of water being used.

Although Pakistan faces challenge in trans-border water talks, yet it needs to focus on interstate issue. Water scarcity can aggravate internal tensions. According to a report published by the UN on Pakistan; water scarcity, droughts, floods and institutional mismanagement can lead to local tensions and gradually to the escalation of interstate disputes.

However, efforts must not be delayed to address the country's water scarcities as it will intensify tensions and disagreements between the involved stakeholders. In such scenario, the price will have to be paid by the whole nation. So, Water management needs to become a top priority for Pakistan.

The government must take serious measures not only in the construction of mega dams (Kalabagh, Diamer-Bhasha) but also scores of small dams. The most pressing need is to create awareness and implement sound water-management practices along crafting sustainable solutions to meet supply-demand management. For the long run it is imperative that an integrated and comprehensive policy framework be developed to ensure sustainable development of water resources.

By Sadiqa Noreen

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Water is Life

Ban Ki-Moon

17 March 2008

At the United Nations, March 22nd is World Water Day. We don't expect people to stop what they are doing and observe a moment of silence – but maybe they should. Every 20 seconds, a child dies from diseases associated with a lack of clean water. That adds up to an unconscionable 1.5 million young lives cut short each year.

More than two and a half billion people in the world live in the most abysmal standards of hygiene and sanitation. Helping them would do more than reduce the death toll; it would serve to protect the environment, alleviate poverty and promote development. That's because water underpins so much of the work we do in these areas.

Water is essential to survival. Unlike oil, there are no substitutes. But today, fresh water resources are stretched thin. Population growth will make the problem worse. So will climate change. As the global economy grows, so will its thirst.

As with oil, problems that grow from the scarcity of a vital resource tend to spill over borders. International Alert has identified 46 countries, home to 2.7 billion people, where climate change and water-related crises create a high risk of violent conflict. A further 56 countries, representing another 1.2 billion people, are at high risk of political instability. That's more than half the world.

This is not an issue of rich or poor, north or south. China is diverting hundreds of millions of cubic meters of water to drought-prone Beijing ahead of the Olympics, but shortages are expected to persist for years to come. In North America, the mighty Colorado River seldom reaches the sea. Water stress affects one third of the United States and one fifth of Spain .

The water system of Lake Chad, in central Africa , supports some 30 million people. Yet over the past 30 years, it has shrunk to one-tenth of its former size, thanks to drought, climate change, mismanagement and over-use. Visiting Brazil this fall, I had to cancel a trip down a major tributary of the Amazon. It had dried up.

I have spent the past year beating the drum on climate change. We've seen the results in the "Bali Roadmap," which charts a course for negotiations on a legally binding treaty limiting greenhouse gas emissions to take over when the Kyoto Protocol expires in 2012. This year, I will make a similar effort to raise public awareness about the Millennium Development Goals.

Among other things, the so-called MDGs set a target of cutting by half the number of people without safe access to water by 2015. This is critically important. When you look at the health and development challenges faced by the poorest of the world's population—diseases like malaria or TB, rising food prices, environmental degradation—the common denominator often turns out to be water.

This September, I will gather top-level officials from across the world at a summit in New

York on how to reach the Goals, particularly in Africa . In the meantime, we need to begin thinking about better strategies for managing water—for using it efficiently and sharing it fairly. This means partnerships involving not just governments but civil society groups, individuals and businesses.

We are at the early stages of this awakening. But there are some encouraging signs, especially in the private sector. Corporations have long been viewed as culprits. The smokestacks from power plants pollute our air, the effluents from industry spoil our rivers. But this is changing. More and more today, businesses are working to become part of the solution, rather than the problem.

Earlier this month, members of the UN Global Compact, the world's largest voluntary corporate citizenship initiative, gathered in New York for a meeting on water. The companies in that room had a total worth of about half a trillion dollars with employees in some 200 countries.

The main theme: moving beyond the mere use of water to stewardship. This translates into a commitment to engage with the United Nations, governments and civil groups to protect what is becoming an increasingly scarce resource and ensure that local communities benefit.

Every journey is comprised of myriad small steps, and they spoke about those, too. A major textiles company told how it was working with local governments and farmers to conserve watersheds in growing cotton. A jeans designer is planning to change its labels, calling for washing in cold and hanging dry as a step to save water.

A drop in the bucket, yes. But I see it as the first wave in a tide of change.

Ban Ki-moon is the Secretary-General of the United Nations

Water Scarcity

World Wild Life

Water covers 70% of our planet, and it is easy to think that it will always be plentiful. However, freshwater—the stuff we drink, bathes in, irrigates our farm fields with—is incredibly rare. Only 3% of the world's water is fresh water, and two-thirds of that is tucked away in frozen glaciers or otherwise unavailable for our use.

As a result, some 1.1 billion people worldwide lack access to water, and a total of 2.7 billion find water scarce for at least one month of the year. Inadequate sanitation is also a problem for 2.4 billion people—they are exposed to diseases, such as cholera and typhoid fever, and other water-borne illnesses. Two million people, mostly children, die each year from diarrheal diseases alone.

Many of the water systems that keep ecosystems thriving and feed a growing human population have become stressed. Rivers, lakes and

aquifers are drying up or becoming too polluted to use. More than half the world's wetlands have disappeared. Agriculture consumes more water than any other source and wastes much of that through inefficiencies. Climate change is altering patterns of weather and water around the world, causing shortages and droughts in some areas and floods in others.

At the current consumption rate, this situation will only get worse. By 2025, two-thirds of the world's population may face water shortages. And ecosystems around the world will suffer even more.

POLLUTION

Water pollution comes from many sources including pesticides and fertilizers that wash away from farms, untreated human wastewater, and industrial waste. Even groundwater is not safe from pollution, as many pollutants can leach into underground aquifers. Some effects are immediate, as when harmful bacteria from human waste contaminate water and make it unfit to drink or swim in. In other instances—such as toxic substances from industrial processes—it may take years to build up in the environment and food chain before their effects are fully recognized.

AGRICULTURE

Agriculture uses 70% of the world's accessible freshwater, but some 60% of this is wasted due to leaky irrigation systems, inefficient application methods as well as the cultivation of crops that are too thirsty for the environment in which they are grown. This wasteful use of water is drying out rivers, lakes and underground aquifers. Many countries that produce large amounts of food—including India, China, Australia, Spain and the United States—have reached or are close to reaching their water resource limits. Added to these thirsty crops are the fact that agriculture also generates considerable freshwater pollution – both through fertilizers as well as pesticides – all of which affect both humans and other species.

POPULATION GROWTH

In the last 50 years, the human population has more than doubled. This rapid growth— with its accompanying economic development and industrialization—has transformed water ecosystems around the world and resulted in a massive loss of biodiversity. Today, 41% of the world's population lives in river basins that are under water stress. Concern about water availability grows as freshwater use continues at unsustainable levels. Furthermore, these new faces also need food, shelter, and clothing, thus resulting in additional pressure on freshwater through the production of commodities and energy.

Disappearing Wetlands

About half of the world's wetlands have been destroyed since 1900.

Some of the most productive habitats on the planet, wetlands support high concentrations of animals—including mammals, birds, fish and invertebrates—and serve as nurseries for many of these species. Wetlands also support the cultivation of rice, a staple in the diet of half the world's population. And they provide a range of ecosystem services that benefit humanity, including water filtration, storm protection, flood control and recreation

Damaged Ecosystems

When water becomes scarce, natural landscapes often lose out. The Aral Sea in central Asia was once the world's fourth largest freshwater lake. But in only three decades, the sea has lost an area the size of Lake Michigan. It is now as salty as an ocean due to the excessive pollution and the diversion of water for irrigation and power generation. As the sea has retracted, it has left polluted land. This ecological catastrophe has created food shortages and resulted in a rise in infant mortality and a decrease in life expectancy for the nearby population.

Water Crisis and Human Security

Water Crisis & Human Security

Sadia

Kazmi

12 October 2015

It is a fact that no country can be fully secure unless its people are protected from external as well as internal threats. No wonder the concept of security has expanded beyond the limited realm of nation state to include the human dimension. It is the individuals and their safety that has

been realized to hold the central position while determining the security of the state. While the developed countries are exploring avenues to deal with issues like climate change, and to devise counter-measures to ultimately uplift the social conditions, the policy makers in Pakistan are unfortunately still wrestling with the state security in purely traditional sense, not as much by choice, eventually resulting in the deplorable human condition at the home front.

According to World Resources Institute (WRI), Pakistan will be the most water stressed country in the region by the year 2040. Despite having world's most extensive irrigation system, water crisis has hit various cities of Pakistan and continues to aggravate by the day. Several factors have contributed to this problem. From siphoning of water through illegal connections, tanker mafia having support of corrupt officials, negligence and lack of accountability on the part of government, exponential growth in the size of population, lack of proper water storage facilities, massive influx of migrants, to the drastic climate change with fewer annual rainfalls, can all be blamed for the present dire conditions.

These sure are the real issues but there is more to it. The problem is that we are quick to blame and not ready to take the responsibility of our actions. A very important dimension which is usually overlooked is the civic responsibility. The callousness with which the wastage of water on daily basis is observed is shameful. One can see pipeline leakages, running taps left unattended, overflowing motor operated water tanks for domestic usage. While everyone has the right over basic commodities this privilege comes with the right to use them responsibly. Before such laxity leads to

worst water drought, the need is to inculcate sense of responsibility at the national level. A country which is already suffering from water scarcity in several of its cities cannot afford this kind of insensitivity.

The authorities should also work on alternative energy resources more vigorously. Even though the increase in Industrial growth is a good economic indicator but at the same

time consumes the lion's share of electricity which is generated from water resources, needed to run the machinery. It leads to frequent power outages causing monetary setbacks by failing to meet export targets and ultimately damaging the foreign exchange earnings. The prospects for Wind energy can be explored as Pakistan has at least 50,000 MW of wind energy potential.

The government can reduce over dependency on water by initiating extensive water storage plans and regulatory framework, with the consent of all stake holders while making sure that they get implemented too. Building dams and reservoirs should be seen as life saving projects in the best interest of national security aiming to ensure human security. Another important area of concern should be the internal social crisis which tends to provide ground for crimes to flourish. It is important to keep a check on the hostile elements who might try to gain support of the common people by exploiting the situation e.g. banned extremist groups trying to gain political and social support by raising slogans of "water terrorism" against India.

Interestingly enough the recognition is there but it largely lacks implementation. One gets to hear officials reiterating time and again that Pakistan soon will have to face worst water crisis. It is quite paradoxical that the narrative signifies as if the crisis has not already hit the state. The whole country is suffering from extreme water scarcity. Karachi is bone dry and even in the federal capital Islamabad; the condition is not very encouraging, same is with Baluchistan and KPK. Instead of just looking at the lopsided supply and demand equation, it is important to take into account the fact that even the available water is unfit for human consumption resulting in deadly diseases. The need is to reevaluate our economic policies and work towards improving the water governance before the situation hits rock bottom.

State's primary objective is to make its people feel safe and free from the fear of want and need. Unless and until this approach is adopted, the value of human life will always be

compromised. Not just that, it will in turn directly affect security of the state. One cannot deny that militancy and terrorism etc. are looming threats which need extensive military and financial resources but an equal amount of attention is needed to alleviate social sufferings, of which water is the prime challenge. Otherwise there is actually no point in spending so much on defence when there will only be barren arid land and no population left to be defended.

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