**Thinking about Water Troubles of Pakistan**

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**Introduction**

Water is in trouble in Pakistan. And drinking water is particularly in deep troubles: from contamination to depletion to scarcity. And if drinking water is in troubles, the hygiene of the country is at risk. It is good that these water troubles are well known in the country. There is no dearth of water related initiatives. The number of donor agencies assisting the country in improving water and the amount of funds they commit has increased to the manifold. The country has given emphasis to achieve country’s international commitments on water through commitments to the Millennium Development Goals and South Asian Conference on Sanitation (SACOSAN). Starting from 2002, the amount of funds for water projects to the then newly established local governments were increased substantially. The provincial public health engineering departments (PHEDs) were devolved in 2002 to augment water and sanitation at local level. Though this devolution of health engineering bureaucracies was ended in a matter of few years, it contributed to the reforms of water services. The federal and provincial governments are also experimenting with new institutional mechanisms to provide drinking water. Corporate like agencies such as Punjab Saaf Pani Company are being set up in addition to the current arrangements, i.e. public health engineering departments and Local Governments to provide water. It is because the policymakers view traditional water setups of PHEDs and local governments are inefficient. Water filtration plants have been installed across the country, and water ATM machines are also being introduced in some cities albeit at a limited scale. Federal and provincial governments are also greatly encouraging private sector expand its role in providing bottled water to the people at an unprecedented scale. In financial terms, allocations to water supplies have increased tremendously though they remain negligible compared to the allocations to transport projects. Government of Pakistan spent Rs. 22 billion on a country-wide filtration project **between 2004 and 2007**. Government of the Punjab has allocated Rs. 20 billion to the Punjab Saaf Pani Company to provide filtered water schemes in the rural areas. Significant allocations have been made to the water quality monitoring setups such as the PWSQA.

The expansion of policies, the setting up of institutions, and the increase in allocation for drinking water sound encouraging. It is convenient to think that the condition of drinking water is improving in the country. Of course, access to the drinking water has increased in most of the urban and rural areas across the country. But access may not mean quality of water has improved. It also may not mean that the water has become healthier and it is making people healthier. A large number of Pakistanis knows that these initiatives have not improved drinking water. The citizens’ complains of unfit water are a reality of everyday life. Despite the inauguration of water related policies and institutions at national and provincial levels,[[1]](#footnote-1) the water woes are increasing manifold with passing time. Those in power realize this and they seem worried about the twin crisis of water contamination and scarcity. But their actions somehow remain unable to deliver water fit for keeping people healthier and safe. What is wrong? And what can be done about it? This paper is an attempt at deliberating these questions. It tries to point out why increasing spending, policies and institutional changes in drinking water sector are unable to address water woes of the country.

**Analyzing the Water Crisis**

But before we discuss the problems of current water-related initiatives, policies and institutions, it is important to understand how and in what ways, water troubles in Pakistan are touching alarming proportions. And many scholars and concerned activists are terming these troubles as water crisis, a term suggesting the arrival of a catastrophe induced by water scarcity and contamination. A look at popular and expertly discourses on water suggests that Pakistan is heading fast towards a serious crisis in the amount of water and its quality. The stories about water crisis appear frequently, almost every week, in the electronic and print media. As the number of these stories is increasing, the realization of water crisis is increasing among a section of policymakers at federal and provincial levels. These stories and growing realization of water crisis in the country is encouraging as they are forcing policymakers and concerned citizens alike to do something to preserve water for people. The coming water crisis, its causes, and its possible effects in the country can be understood with reference to these stories, popular and expert, on water. Taking clues from these stories and from personal experience, this section has been worked to comment on the water initiatives in Pakistan. It provides analysis of the assumptions, implementation strategies and outcomes of the initiatives in water in the country.

*No water, no survival*

Pakistan may actually run out of water. Some of its parts have already become dried. In 2009, Anatol Levin, a professor of South Asia, warned that “[w]ater shortage…greatest future threat to the viability of Pakistan.” The United Nations estimates that Pakistan will achieve the status of ‘water scarce’ country by the 2030 compared to its current status of a ‘water stressed’ country. Another report predicts the coming of ‘water scarcity’ by 2035. Water scarcity means having less than 1,000 cubic meters of water available per person. The current availability is as much as in Ethiopia.

A number of places in Pakistan are experiencing water shortfalls: Karachi has a shortfall of 245 MGD. The other places are Tharparker, Quetta, Cholistan, and Mithi. By 2025, the country can experience a shortfall five times the capacity of its reservoirs. For example, water levels in the Quetta have fallen so fast that experts have started fearing the vanishing of its aquifer just in 20 years. The signs of water scarcity in Karachi are too visible. Many people agitate for water in many parts of Karachi almost every week.

But none of the initiatives introduced by federal and provincial governments in the country has been dedicated to retain the amount of water in the country. Most of the programs focus on increasing access to water through piped supplies or filtration plants. But if we run out of water, what benefit will increased access do? Is increased access to something, which will run out, worth spending scarce monies? It is therefore, important to realize that the supply side statistics telling Pakistan has increased access to drinking water create a false hope. The real question is how long Pakistan can sustain this access? With the dwindling water levels, the pipes may start becoming dry in near future. Will Pakistan be publishing statistics on the reversal of access to drinking water then?

In fact, the water extraction in Pakistan is exorbitantly wasteful. It far outpaces the country’s rate of water recharge. The country receives little rainfall. And that little rainfall is also wasted because there are no arrangements to use this water for recharge. The country dedicates around 90% of the freshwater to its agriculture which wastes great amounts of water. The remaining 10% is divided among industries, commercial purposes, washing, and drinking. However, around half of this 10% water is wasted either within the supplying system or inefficient use.

These are signs of imprudence.

In his 2006 book *Collapse: How Societies Choose to Fail or Succeed,* Jared Diamond claims a society may fall if it runs out of water. Commenting on the fall of ancient civilizations of Anasazi and Maya, he demonstrates they begin to fall while running out of water. Pakistan is depicting those signs: no forests, over-extraction of water, and wasteful use of fresh water. Like the Anasazi and Maya civilizations, the end of water in Pakistan is also being brought about by the imprudent decisions of the people at the helm of decision making about water. Imagine, in 1950s, Pakistan was a water-abundant place with 5,500 cubic meters per person.

Though policy documents produced by WAPDA and Planning Commission give attention to water recharging, however, little has been done to actualize these promises. The reasons are clear: water recharging is a slow process and may hardly bring any political rewards as compared to the supply-side, flashy projects which can be actualized in a matter of few months or years. In their book, *Ethical Realism: A Vision for America’s Role in the World,* Antol Levin and John Hulsman recommended that first priority for US Aid to Pakistan should be to address water problems. These writings were being produced when Pakistan was spending a lot of effort and money on fixing water problems.

In these circumstances, Pakistan can hardly afford to delay prioritizing water recharging. It does not mean that access to water is not important but it is critical to ensure the promise of water availability.

*No survival with poisoned water*

The imprudent decision making about water has contributed to its poisoning. What is the benefit of unfit water? In his 2006 book *Collapse,* Jared Diamond suggests human societies to choose for toxic free environment. It is a very important advice. In less than 20 years time, water across places in Pakistan has become unfit for human consumption. A lot of money being spent on monitoring water quality and providing filtered water in Pakistan can be saved if the country chooses to prevent water pollution in the first place.

Despite the reports of Pakistan Council of Research in Water Resources (PCRWR), Water and Sanitation Agencies, Public Health Engineering Departments, and donor agencies on biological and chemical contamination in water, efforts are hardly made to prevent water pollution. The promises to ameliorate water contaminations are many but actions to stop contamination are few and ineffective. The industries, commercial ventures, hospitals, and agriculturalists are too strong to be subordinated to the ethics of environment. These entities will have little incentive when government also does also not follow its own environmental laws. Its sanitary agencies discharge millions of tons of untreated sewerage into the fresh water bodies: rivers, canals, lakes on daily bases. Government agencies hardly follow environmental pronouncements such as Pakistan Environmental Protection Act 1997 and Pakistan Environmental Quality Standards 1997. It means that correcting drinking water problems does not fall into the domain of water supply agencies, larger political commitment needs to be expressed to save water bodies from biological and chemical poisons.

The other causes of water pollution relate to the poor water and sewerage infrastructure and dumping of solid waste into water channels. At many places, the water pipes are leaky, broken and old. So are the sewerage pipes. At many places they mix with each other. The proliferation of gutters and pit latrines and absence of drainage and sewerage treatment is a bigger problem than provision of water.

Another source of contamination comes from excessive water mining. As the country’s water demand is increasing and as the country continues to refuse responsible water use, so the unsustainable water extraction is creating arsenic and fluoride.

Pakistan needs to make a clear choice of preventing water from all kinds of contamination from all sources. If the causes of pollution persist, the money Pakistan spends on providing clean water will not make significant difference. The more the water is cleaned in Pakistan, the more gets polluted. In the absence of a clear choice for non toxic environment, there will remain a continuous battle between life and death.

*One disease, many medicines*

Any careful reader and observer of drinking water policies and programs will notice that Pakistani policymakers are tilting towards water filtration plants as the leading public sector solution of water problems in Pakistan. In fact, water filtration plants as solution to water contamination are a part of worldwide movement. They are becoming popular with governments because they are a convenient way to address water problems. A government pursuing filtration plants may not need to bother about thinking to resolve fundamental causes of water contamination. In addition, there are big rewards for bureaucracies and private filtration companies when filtration plants are promoted. It is because the filtration plants are very expansive. In many cases, they are imported from the countries of the Western Europe. As citizens become used to filtered water, the private companies arrive with their water-dispensing ATM machines, domestic filters, and water purifying technologies. All this seems to provide good solutions. However, their dark side is that people and governments forget that water is not a luxury, a matter of lifestyle; it is a basic right and necessity for survival. They also forget that as an element of nature, as a *being*, water also has rights because it is alive—it is a form of life. Like trees should not be cut without serious need, like animals should not be subjected to cruelty in any case, like mountains should not be torn frequently, water should also not be poison with toxics. If people and governments accept filtration as a solution, what they talk about is to improve filtration not ensuring the natural state of water.

Pakistan adopted water filters in the hope to resolve its water problems by installing filtration plants under its Clean Drinking Water for All 2004-2010. The project intended to install at least one filtration plant in a union council. It was planned to install 6035 water filtration plants of various capacities (500/1000/2000 gallons per hour) across the country. It was a convenient solution because by convincing people to use filtered water, Government of Pakistan could spare itself from committing to supply safe tap water. By agreeing to water filtration/purification, citizens and government withdraw from their responsibility to keep all water resources safe and toxic free. In this sense, the water filtration plants may have implications for citizenship. In the long run, they may undermine citizens’ entitlement to safe tap water and safe water streams. By considering filtration plants as normal and desirable good, citizens may withdraw from their claims on fresh water. And the polluters may continue to pollute water unabated.

Aside from the possibility of undermining citizenship, the filtration plants became non-functional within few years of their operation. Government of Pakistan did not establish clear governance mechanism to operate and maintain them. There were no arrangements for women, elderly and children to access and transport water from these plants to their homes. Nothing was put in place to ensure equitable distribution among the residents living around these plants. As a result, these plants worked only for the selected male water collectors able to transport water gallons. In the absence of operation and maintenance, filtration plants became dirtier and unmanageable; sometimes people would wash their faces and their feet there.

It takes a village to raise a child; it may take a nation to evolve practices of preserving and using water. If filtration plants have become successful modes of providing safe water to people in some countries, it does not automatically mean they will work the same way in Pakistan. Pakistan needs to make a choice for clean and safe water, with or without tap water supply.

*Their order, our chaos*

We are living through interesting times. New institutional and governance forms are being introduced in Pakistan to increase access to water. Government of the Punjab particularly believes that new institutional and governance practices are panacea for the troubles of society and service delivery. As a result, it is importing governance ideas from Turkey and other places in Western Europe. But as any variety of trees or plants need a fitting natural environment, so do the governance ideas need supporting cultural and political conditions. It may take time to see whether the new institutional arrangements will deliver their promise.

The new agencies established under the imported ideas, i.e. Lahore Water and Sanitation Company and Punjab Saaf Pani Company and their performance need to be compared with other government departments. Instead of removing the too-well-known problems of government water supplies, the governors of Punjab have established new entities to dispense with water issues. However, new ideas may require the reworking of the bureaucracies that fail, procedures that discriminate and obstruct, and worldviews which retard policymakers. Though the structures of these organizations are corporate, the routines of the past may influence their workings. The same supply of service now requires more than double the money spent in the past.

The borrowing of governance ideas also reflects in the work of international donors and local NGOs. A DFID project for water provision, for example, commits US$ 23500 to provide ATM machines for dispensing water. It claims to save water and ensure equity by fixing 30 liters limit to a user in a day. On the face value, this looks a good project but the problem relates to the question if Pakistan can afford to replicate this expansive solution throughout its villages. Secondly, why should an NGO or government set limits to the amount of water a family can use? If government does not let ground water get contaminated, people can decide the amount of water they need to drink.

While importing governance ideas, federal and provincial governments are undermining the local governments which are the most appropriate institutions to find and deliver local solutions to drinking water at the local level. Giving legislative mandate to the local governments to look after water is not only affordable but also more workable. The water policies and programs introduced during the last decade hardly attend to the place of local governments in providing water services.

*Markets are not solvers*

In many parts of the world, private sector has contributed to solve some problems of their respective societies. However, private sector is not automatic solver of the water problems. Without strong government, without measures of transparency for government work, the private sector may not solve the problems. The private sector may prove to be the mirror image of the government around it. Pakistani policymakers are increasingly looking towards the private sector to replace it in the provision of social services including drinking water. And until private sector replaces government, the government is modeling itself on the modalities of private sector. The case of bottled water in Pakistan illustrates this point well. Government of Pakistan has encouraged bottled water as one of the leading solutions to reduce water-borne diseases in the country. As a result, bottled water expanded substantially. From 2005 onwards, however, it started becoming evident that bottled water was no different from the contaminated public supplies. In some cases, the bottled water proves to be worse than the tap water. It just mirrored the practices of government as it expanded in the country. Many of the bottled water companies do not test water, many pack water in questionable plastic material, and some don’t reveal information on water ingredients and almost all of them are resistant to the idea of paying for the water they extract from the ground.

Table 1: Expansion of Bottled Water in Pakistan[[2]](#footnote-2)

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| --- | --- |
| Year | Liters |
| 1999 | 33 million liters |
| 2003 | 70 million liters |
| 2011 | 1.1 billion liters |
| 2012 | 1.27 billion liters |
| 2015 | 1.55 billion liters |

**Why the Problems Persist?**

A model of thinking which dominates the policymakers thinking privileges efficiency over citizenship, technique over politics, and technocracy over participation. This way of thinking about water is responsible for the continued crisis in water. If we analyze the programs and initiatives, we will appreciate that this kind of thinking is responsible for water problems. This thinking reflects in three ways: (i) water is no more a public good; (ii) water problems can be fixed by technical and scientific solution; (iii) and, water problems can be solved by private companies.

The earlier order of water which regarded water as a public good has broken down. It is being fast portrayed not as a social but technical/scientific matter. Though in the past, between 1947 and late 1980s, piped water was available in a limited way yet its supply was based on the principle of water being the public good. It was dominated by engineering solutions.

During late 1990s, the governments started to deviate from the principle of water being the public good. By 1999, Government of the Pakistan had accepted water could be private matter of consumption. As a result, private supplies of water expanded. The experiments in water governance such as Water and Sanitation Companies and Punjab Saaf Pani Company illustrate this point. These organizations have been worked on corporate model. The principle of efficiency and supremacy of technical solutions govern the working of these organizations. The scope of their work is by default limited to provide water efficiently without correcting the underlying problems. Since these companies need big budgets to operate, it is difficult to hope that they will be sustainable in the long run.

A number of experiments are being made with various ways of water provision based on the ideas of privatization and efficiency without addressing the causes of the water problems. Though these problems existed before 1990s, but the abundant water quantities did not let problems get serious. It is due to the new model of thinking about water that government is further removed from devising comprehensive solutions to the problems of water.

As this model gets entrenched, tremendous subsidies will be needed to expand this model. It is not possible for the governments, given the current state of affairs, to supply subsidies to run these arrangements. Though participation was not ensured even before 1990s, the installing of new organizations has further removed people from influencing service. This model has and will further retrench the engineering model of water supply as instituted by the colonial state.

The modeling of government on private sector has implications for citizenship and political participation.

**Creating Future**

The Pakistanis will soon miss the old days when they could identify one or two major issues to fix the problems they faced regarding basic services. Now the issues are many and all have become urgent. In the 1960s, water was abundant and no one in Pakistan would think drinking safe water would become a major problem. Until early 1990s, Pakistani people could easily pump water and it was fit for drinking in most of the places. Then hardly anyone could have thought that they would have to decide how many glasses of water they can afford to buy to drink. These days many people in Karachi, Thar Parker, and Quetta have to decide how many gallons of drinking water they can afford to buy every day. But imagine even if people can afford to buy water to their satisfaction, there is not much water to buy. In Karachi, for example, shortfall of drinking water is 430 million gallons per day.

In a matter of less than 20 years, finding safe water has become a dream to chase. The situation has become so scary that even the best of the country’s experts in water feel frightened thinking about solving the problems of water. The Planning Commission’s Vision 2025 document clearly acknowledged that policymakers needed to understand what to do with the crisis.

The question is how to envisage future of water in Pakistan when the institutional mechanisms prove to be part of the water problems. A beginning can be made even amidst these circumstances.

It is important, to being with, to accept the water as a public good. Not only the policymakers adopt this rule but the people themselves reclaim public water. It is the basic principle which can help us fix the other problems of water such as scarcity and contamination. By admitting water as a public good, we can walk towards reducing crimes against fresh water sources by penalizing the polluters. By accepting water as a public good, the role of private sector and bottled water will be reduced. Public water requires provision of safe drinking water through the tap. It can be made possible if pollution is stopped and water is recharged.

As regards the governance arrangements for the future of water in Pakistan, some arrangements are already in place. They need to be decolonized, however. The PHED needs to move away from believing in the supremacy of engineering solutions to political solutions which require settling water questions through debate and deliberation. The specialized water agencies also need to get closer to the people. The elected local governments constitute the best mechanism for managing and providing the water to the people.

As regards the new arrangements, there is a need to establish National Water Commission to coordinate the issues of water across various fields. It is difficult to deal with the drinking water issues in isolation of irrigation water, climate change, pollution, etc. A National Water Commission should look into all these matters.

1. National Drinking Water Policy (2009), National Sanitation Policy (2006), National Standards for Drinking Water Quality (2008), National Environment Quality Standards (2010), and National Climate Change Policy (2012), and provincial levels, i.e. Punjab Drinking Water Policy (2011), Domestic Water and Sanitation Policy for Sindh (2006), and despite the setting up of institutions such as Pakistan Standard and Quality Control Authority (PSQCA), Pakistan Council of Research in Water Resources (PCRWR). [↑](#footnote-ref-1)
2. Compiled from these Sources: Dr. Noor Ahmad Memon, “Bottled Water is a Big Business,” Accessed

   <http://www.foodjournal.pk/2014/October-November-2014/PDF-October-November-2014/Exclusive-article-Dr-Noor.pdf>; “Bottled Water Business Potential in Pakistan,” <http://pakwatercare.com/potential-business-2/>; “Mineral Water Industry Growing Swiftly,” <http://nation.com.pk/business/27-Jun-2011/Mineral-water-industry-growing-swiftly>; “Mineral Water Industry Expands 15pc,” <http://www.dawn.com/news/638344/mineral-water-industry-expands-15pc>; Euromonitor International, “Bottled Water in Pakistan,” (June 2015) <http://www.euromonitor.com/bottled-water-in-pakistan/report>; https://mineralwaterbusiness.wordpress.com/ [↑](#footnote-ref-2)