Thirsty Cities
Analyzing Punjab Drinking Water Policy

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Acronyms

ADB	Asian Development Bank
ADP	Annual Development Programme
CDA	Capital Development Authority
DDC	District Development Committee
E&I	Equity and Inclusion
GIS	Geographic Information System
HUD&PHED	Housing, Urban Development, & Public Health Engineering Department
LG&CDD	Local Government & Community Development Department
MDG	Millennium Development Goals
MPA	Member Provincial Assembly
MNA	Member National Assembly
NEP	National Education Policy
NEP	National Environment Policy
NGO	Non-Governmental Organization
NDWP	National Drinking Water Policy
NRW	Non-Revenue Water
P&DD	Planning & Development Department
PCRWR	Pakistan Council on Research on Water Resources
PDWP	Punjab Drinking Water Policy
PGIEP	Punjab Government Efficiency Improvement Programme
PLGO	Punjab Local Government Ordinance
PRMP	Punjab Resource Management Programme
TMA	Tehsil Municipal Administration
TMA	Town Municipal Administration
TMO	Tehsil Municipal Officer
TO	Tehsil Officer
UNESCO	United Nation Educational, Scientific & Cultural Organization
WASA	Water and Sanitation Agency
WHO	World Health Organization

Preface

My fascination with understanding drinking water and its supplies is old, almost more than a decade old. I often used to think about the water supply systems in Harrappan and Mohenjo-daro civilizations, while passing through the streets with open drains in our cities and villages. The question which always perturbs me is why a region, where people were aware of the significance of safe water supplies and keeping waste and fresh waters separate became one of the world's most insanitary regions. The question, why water borne diseases and water borne mortality are our biggest challenges urges me to think about this great decline in water and sanitary conditions in the land of Punjab. I think public policy, as it is being done in post-colonial Pakistan is largely responsible for this situation and its antecedents can be found in the policies of British India.

Writing this work has been difficult. It was exciting sometimes, boring other times. The perspective on drinking water supply and its politics that I developed here became possible because of my involvement with rural and urban communities, through the development projects of the international donors and the government of Punjab during the past 10 years. Since 2001, I am associated with Orangi Pilot Project (OPP) and Urban Resource Centre, Karachi and contributing to their replication in Punjab. My participation in their replication has immensely shaped my understanding of drinking water issues. In this work, I have used Arif Hasan's Trends perspective and WaterAid's equity and inclusion (E&I) perspective to analyze Punjab Drinking Water Policy (PDWP) and understand why drinking water in Punjab is bereft with serious problems. I hope that the findings and the way forward outlined in this work make a contribution to universalize the safe drinking water in Punjab.

Foreword

Thirsty Cities: Analyzing Punjab Drinking Water Policy is a text of major importance, a rigorous analysis and profound rethinking over drinking water policy. Its remarkable originality lays where Dr Imdad Hussain combines issues related to drinking water policy; past scenario and present challenges, for a careful analysis. This precise analysis has been described in a simple, straightforward language that even a layman effortlessly moves through and comprehends the intricacies related to Punjab Drinking Water Policy (PDWP).

Dr Hussain's commanding familiarity with the subject matter lies where he combines the two approaches for a more comprehensive analysis: the instrumental, quantitatively measureable, Trends Approach & the normative, value-based, and ethical i.e. Equity and Inclusion (E&I) approch. Hence together it could be called as a refined Eclectic Approach for analysis. By implying this approach, he systematically encompasses all the components of the PDWP; from antecedent to formulation, from development to implementation and finally its execution by the hands of administrators. Consequently, he explores that the main troubling obstacle of PDWP is its inability of being sensitive or responsive to relevant trends and no demonstration of E&I. Moreover, he highlights another major flaw of this policy i.e. it only has worded the everyday issues regarding drinking water e.g. inequality of water supply, water losses, contaminated water, poor metering procedure, but does not provide technical measures and effective infrastructure (social, cultural, financial and political) to rectify them. He adds that these lapses leave the vision of PDWP less pragmatic and dysfunctional.

To me the real achievement of this work is that it grapples with the problems by instilling the idea of reconsidering the prevalent practices of PDWP. This reconsideration, according to the writer, could be materialized best by the Eclectic Approach (Trends and E&I). By bearing in mind the relevant trends i.e. climatic, demographic, cultural, and economic and demonstrating an equal participation of the citizens, he frames principles for exterminating the problems. By expanding the scale of his research, he argumentatively stimulates the reflections on ethicality of water as

reformation for water scarcity. He even suggests education as a tool to inculcate such ethics among citizens.

In short, his theoretical intelligence to challenging issue of drinking water scarcity is very practical and is a cherished resource for experts offering a fresh, inviting slant on overt and covert issues of PDWP by framing Trends and E&I as social, cultural, economic and political inquiry. Besides it, the idea of love and respect for water as living entity is fascinating and thought provoking for layman molding it as a TEXT FOR ALL.

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I am highly thankful to all those who provided me information during interviews in various cities in Punjab. I owe special thanks to WaterAid Pakistan and Sohail Ahmad from WaterAid Pakistan for supporting this study.

Chapter 1

The Heart of the Matter

Water is important to human life everywhere. It gives life if it is clean and safe. It kills if it has pathogens, deadly chemicals. It gives life if it is healthy. It gives disease if it is diseased. With the exception of some places, water is everywhere on the earth. The drinkable water is, however, scarce. 70% of the global water is used for agriculture. It is common knowledge that less than 1% of the fresh water is readily available for human use. With the exception of few places, water is scarce everywhere and consequently this scarcity has posed a great threat to the survival of the humanity. Most people think water as a natural resource. They think so rightly. However, water is a cultural resource too.

In Punjab, water is symbolically important. The word Punjab literally means five waters. Hence the idea of water is inseparable from the idea of the territory of Punjab. Punjab used to have abundant water: sweet and drinkable, which attracted the imagination of poets, folklorists, traders, invaders and tourists. The abundant water was one of the major sources of agricultural production. Punjab's folklore took pride in its sweet water and fertile land. Jamez Heitzman's *The City in South Asia* (New York: Routledge, 2008); Reeta Grewal's edited volume *Five Thousand Years of Urbanization: The Punjab Region* (Manohar, 2005); Jonathan Mark

Kenoyer's *Ancient Cities of the Indus Valley Civilization* (Oxford University Press, 2006); Alice Albinia's *Empires of the Indus: The Story of a River* (W. W. Norton & Company, 2010) provides insights into the history of Punjab. Heitzman provides interesting account of water supplies in Harappa and Mohenjo-daro. Cholistan, which was a part of Harrapan civilization, had sufficient water to sustain village agriculture between 3,500 to 1,300 BCE.[1] The individual chapters in Grewal's book cover a range of topics and offer illustrious accounts of the growth of urbanism in Sutlej-Yamuna Divide, Taxila, Lahore, Sirhind, the Upper Bari Doab and Himachal Pradesh, both in history and modern times. Kenoyer's book consists of illustrious account of Indus Valley cities and their water supplies, including the cities and water supplies in Punjab. It tells about the construction of wells in Mohenjo-daro and Harappa. In both cities, latrines were constructed by numerous households.[2] But with all its wonders, Harappan civilization was subjected to ruin. Why? Alice Albinia conjectured: "Harappa…despite its extraordinary sophistication collapsed and perished probably because its citizens over-exploited forest and water-supplies."[3]

Of particular interest to the drinking water policy are the accounts of water supply systems in Harappa. Sheldon J. Watts's *Disease and Medicine in World History* (New York: Routledge, 2003); John S. Bowman's edited volume, *Columbia Chronologies of Asian History and Culture* (Columbia University Press, 2000); Greogry L. Possehl and M. H. Raval's *Harappan Civilization and Rojdi* (Leiden: E. G. Brill, 1989) provide highly interesting information about the fascinating water supply system in ancient Harappa. Watts shows the familiarity of the ancient civilizations with the important role of the clean drinking water for human health. He says: "Harappan governing elites saw to it that their cities were provided with supplies of running clean water and sewerage system." [4] Bowman says "The Harappan civilization is notable for its system of writing, city planning, advanced water systems…"[5] Talking about the abundance of water in Harappa, Possehal and Raval's said: "[o]ver the entire course of the third and second millennia, when the Sarasvati seems to have dried-up, there was plenty of water and arable land within the larger Harappan domain to which these people could have turned."[6] Together, these works tell about the abundance of water, awareness of the significance of clean water, and

water supply systems in Harappa.

Though water was abundant in Punjab, the incident of its wastage was little. The ethics of water conservation permeated the society in Punjab. Water sources including wells were considered sacred and were treated with respect. The villages in Punjab enjoyed access to fresh and clean water. The joyous mention of *nadi* in Punjabi folklore points to this. The villages had wells: digging wells and operating them for drinking and harvest is well documented in Punjabi folklore. This folklore romanticized wells, nadis (stream), *gharras* (pitchers), gathering of women at wells; their giggling, talking, singing, washing clothes and fetching water. Water fetching was that much fascinating that the Punjabi poets composed countless verses on this phenomenon. Water and Punjabi peasant were woven into an inextricable relation.

In recent scenario, the situation of water in all the cities and towns of Punjab is entirely different from past. Lack of space, however, allows mentioning a few cities facing multiple crises in water sector. Among them, Lahore merits attention as the story of Punjab is incomplete without it. Many years ago, I learned that whatever water available here was contaminated due to pollution and arsenic. Arsenic is found in the under ground water in some parts of Lahore. Same is the case with some cities of south Punjab. In other big cities of Punjab such as Gujranwala, Rawalpindi, Multan and Faisalabad, water continues to remain one of the major sources of waterborne diseases.

Wells existed in Punjab's cities until the end of nineteenth century. When piped water supply was introduced in Lahore in June 1881,[7] the city had 1,059 wells.[8] Wells, however, do not exist in Punjabi cities and villages anymore. Piped water is available only in some of villages and the chances of providing water to all of the villages are bleak. In Punjabi villages, water wells were community resources being used in an equitable and inclusive manner and as a result were looked after collectively by the community. That system broke down without any proper replacement in the form of installation of modern water supplies. In the absence of piped water and collective ethics, those who can afford have installed electrical water pumps in their homes. Some of them consume water as they wish creating inequities for those who use hand pumps.

The romantic portrayal of Punjab's history of water may sound imaginative to some people. I do not defend myself on this. There were problems, too. However, there are a number of things to look at the past to understand the present.

I am aware of the famines, particularly water famines in Punjab, which were largely the results of changes in natural environment and less a result of the human impact. What I have tried here is to abstract the condition of water in the past to construct a baseline to pose a question: why the people in Punjab could not lay an efficient and effective system of drinking water and why, they, in the twenty first century, are struggling to get safe water. I am not proposing a systematic comparison between contemporary time and history rather I have used the history as an inspiration to conduct analysis of Punjab Drinking Water Policy (PDWP). I believe public policies have relations with the social, political and technical spheres of their times. I also believe that policies can be related to the history for inspiration, for understanding the present and for pondering over the future.

At inception, Pakistan had sufficient water but in 2012, the news about water is worrisome. The Economic Survey of Pakistan, 2005-06 alarmingly expressed the decreasing amount of total water in Pakistan: from 5, 300 cubic meters in 1951 to 850 cubic meters in 2013.[9] The data provided by Water and Power Development Authority (WAPDA) depicts even more worrying situation. According to WAPDA, in 1951, the average availability of water in Pakistan was 5,650 cubic meters per person per year which fell to 1,105 cubic meters in 2006. By 2010, it reduced to 1,000 cubic meters. By 2025, it is projected to fall to 800 cubic meters. WAPDA's report predicts further drop of water availability to 1000 cubic meter per year by 2010.[10]

The measurement of water availability and water scarcity in Pakistan are based on the widely used Falken Mark Water Stress Indicator. A Swedish water expert Malin Falken Mark developed this indicator in 1989. The Indicator regards countries with less than 1,700 M^3 per capita per year water availability under *water stress* while the countries with less than 1,000 M^3 per capita per year water availability under *water scarcity*. The basis for calculating the Indicator is individual use of water. The Indicator

is also helpful in making distinction between *climate-induced* and *human-induced* water scarcity. The Indicator can be used as a diagnostic tool to develop effective measures to deal with water scarcity.[11]

The Indicator tells us that water is becoming scarce in Pakistan, which is adversely affecting Punjab. The enormous change in the volume and state of water resource over the course of history necessitates understanding and analyzing the situation of drinking water along with a critical review of the opportunities and possibilities of PDWP.

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Chapter 2

Perspective on PDWP Analysis

The literature on the technical and value related aspects of public policies and their analysis is diverse and broad.[1] In the field and practice of policy analysis, the technical-rational approach is dominant relative to the value related approach.[2] Despite this, however, technical-rational approach is not the only criterion to analyze public policies and judge their worth. Value based criteria are also used for judging public policies.[3] The technical-rational approach is instrumental and is based on quantitatively measurable features such as efficiency of policies. The value based approach is based on various ideas related to social justice, human rights, gender equity, environmentalism, and social inclusion. In my view, both technical and value based approaches are important for policy analysis. Therefore, various elements of both the approaches could be combined to analyze policies.

In this work, I have tried to combine technical-rational and value based approaches. I have combined trends approach developed by Arif Hasan with Equity and Inclusion (E&I) approach of WaterAid. The *trends* approach, as I describe here is difficult to categorize as purely technical, however. But since the estimation of *trends* involves quantification, the *trends* approach resembles rational-technical approach to policy analysis. The use of trends approach helps to understand the relevance of a given policy. As a value based approach, the *E&I* approach is based on ethics and focuses on the ends of the policy as much as its relevance. Here the elements of both approaches

have been used to guide the PDWP analysis and summed up in the framework of analysis section at the end of this chapter.

Trends Perspective

Arif Hasan—renowned Architect, Urban Planner and Chairman of Orangi Pilot Project (OPP)—contends that public policies work if they are built on relevant *trends*. He suggests developing public policies on the basis of relevant trends and not on the basis of existing conditions. In his view, public policies are drafted in Pakistan on the basis of conditions. Conditions, according to Arif Hasan, mean *existing* state of *something* while trend means *change* in that *something*. For example, the condition or existing state of employment is that more than 70% of Pakistani work age population is employed in informal sector. The trend of employment is that informal sector employment will increase in future. Take the example of marriage institution. The condition or existing state of marriages is that parents arrange marriages for their children. The trend of marriage institution is that the number of couples deciding their marriages will increase. Another example is of transit trade whose existing state is that it constitutes a significant part of the trade and future and the trend of transit trade will increase.

Taking a clue from Arif Hasan, I think it is highly important to think about how things are changing. Developing policies on the basis of conditions means responding to what things are rather than how they change. The conditions are also important criteria in policy analysis in Pakistan as the success of the policies is determined by the degree to which they respond to the conditions they target: If a given policy, depending on its context, ameliorates the conditions or creates the conditions, it is considered successful. The *trends* approach suggests that the worth of the policies should be determined by their ability to respond not to the existing conditions of something but to the change in something over a period of time.

Trends Relevant to Public Policies

A range of social, economic and demographic trends is relevant to public policies. Extending Arif Hasan's idea, I have reviewed demographic, climatic, economic and cultural trends and tried to describe their relevance to the PDWP.

Demography

I will refer to few scholars to tell why demography is important. In 2004, David K. Foot claims, "demography explains two-thirds of everything."[4] According to Nugent and Seligman, demography is "one of our few guides to charting the future of our world."[5] Malmberg and Sommestad claim "[d]emographic trends carry considerable weight as prognostic instruments." They give three reasons to support their claim: first, the slow growth of demographic trends helps their foretelling compared to other social trends; second, the population's age structures influence working of society and economy and function as a foundation for future planning; third, demographic trends help in predicting the social changes in future. In short, they said that two demographic variables—overall size and age composition—are predominantly useful for environmental work. One of the conclusions of Malmberand Sommestad is that the environmental problems can be avoided by making environmental policies responding to the demographic trends.[6]

Demography is important for public policy but more important for water policy. The demographic trends in fertility, age structure and migration are sensitive to the drinking water and water policies. Among demographic trends, the changes in household size and growth are very important for water policy. Based on the calculations of household related data from forty countries in Africa, Latin America and Asia, Diallo and Wodon have shown unprecedented growth in the number of smaller households. Their analyses reveals that the cumulative growth in households is more than the cumulative growth in population.[7] The trend for smaller households is increasing across Pakistan. Between 1998 and 2012, households in Punjab have grown by 32%.[8] The problem is that the smaller households use more water than larger households.[9] The household growth has other policy implications, too: first, the construction of new households requires construction material; second, new households will need more water connections, which mean expansion of infrastructure will be necessary. Since young people are leading growth in households, consequently, more water will be needed as the young people consume more water than the children and the elders. Another demographic trend relates to the rising urbanization, which increases the demand of water.

Climate Change

Climate change means long-term, enduring change in average temperature. Floods, rise in the temperature and rains indicate climate change. It is difficult to envisage various impacts of the climate change. Climate change and drinking water are pervasive, related to everyone, everyday. This very reason makes them important. Climate change affects water resources consequently influencing societies by means of floods, droughts and waterborne diseases.[10] Climate change has consequences for *E&I* because it adversely affects the poor more than its affects the middle class and rich people. According to Dragoni and Sukhija, hydrological cycle is changing due to rise in global temperature stepping up rainfall and floods. They say climate change shapes recharging of ground water and its quality.[11]

The Inter-Governmental Panel on Climate Change (IPCC) simulations tell that water vapor concentration and precipitation are expected to rise from 5% to 20%, which means water resources would be affected adversely. The changing patterns of rainfall and the withdrawing of Himalayan Glaciers have also affected the amount of available drinking water. A 1°C temperature rise will increase the speed of melting of Glaciers.[12] In addition to affect the amount and cleanliness, climate change may also increase infectious and waterborne diseases. What is worrying is that the climate change is causing the emergence of urban epidemics. Variations in temperature change the rates of water borne diseases. R. Alexandar and G. Poyyamoli say climate change plays important role in the spread of water-, vector-, and rodent-borne diseases, which are common in the urban areas.[13] In Anatol Lieven's words, "of all the countries in the world that are acutely threatened by climate change, Pakistan will be one of the most important."[14]

Privatization

The role of the private sector is expanding in drinking water in Punjab and this is due to many factors. The most important factor is the inability of provincial government to refine its water supplies for human consumption. Moreover, the onset of neoliberal market economy is also stimulating private sector in drinking water. The people in major cities are turning away from tap water for drinking. As a result, private drinking water companies are growing and water is being delivered at homes by them. A 19 liters bottle

costs Rs 50 to Rs 80 and has 50-60 glasses of water depending on the size of the glass. A family of six may consume a 19 liters bottle in two days. It means an average household might need 20 bottles of 19 liters per month worth Rs 1,000 to Rs 1,200. Considering the increasing poverty, it might get difficult for most of the households to afford private drinking water. Even buying 5 liters bottle can be expensive for them.

Besides, the resistance to increased water tariffs is strong in the province. Politicians find increasing water tariffs unpopular and the provincial government can't provide free and safe drinking water to all. The expansion of private drinking water has serious implications for *E&I*. The water needs of the people can't be satisfied with bottled water. The only way to provide universal access to the drinking water is to make sure the availability of safe water. An elaborate regulatory mechanism doesn't exist for private sector drinking water. In addition, no comprehensive mechanism exists to control the private extraction of water and its implications for communities.

Culture

A number of works in the last two decades have pointed to the role of a culture for development. The significance of culture for development was highlighted in UNESCO's *The Cultural Dimension of Development: Towards a Practical Approach* (Paris: Unesco, 1995). An edited volume by Susanne Schech and Jane Haggis, *Development: A Cultural Studies Reader* (Malden: Blackwell Publishers, 2002) offers a good example. Lawrence E. Harrison and Samuel P. Huntington, eds. *Culture Matters: How Values Shape Human Progress* (New York: Basic Books, 2000) convincingly highlighted the multiple relations between culture and development. In the concluding chapter of their edited volume, *Culture and Public Action* (Stanford University Press, 2004), Vijayendra Rao and Michael Walton asserted: "Cultural factors lie at the heart of the functioning of formal and informal institutions that determine nonmarket outcomes in policy decision making, service provision, participation, and conflict management."[15] They regard development as "a social and cultural process." They stress incorporating culture in development takes long time: "A development culture that forces projects to be completed in two to three years before they are either rapidly and meaninglessly scaled up, or abandoned, is not conducive to social change or to learning by doing. A short-term horizon in most circumstances would make it impossible to

incorporate a cultural lens."[16] The variety of relationship between cultural diversity and water has been explored in a volume, *Water, Cultural Diversity, and Global Environmental Change: Emerging Trends, Sustainable Futures?* (Springer, 2012). The volume was edited by B. R. Johnston, *et al.* The central message of this volume is that policy makers should not ignore the cultural diversity and cultural practices while drafting environmental and water policies.

Water related cultural practices are important. However, they have been least studied. UNESCO has worked on the significance of culture for water policy and accumulated useful knowledge for water policies. Its findings are relevant to the PDWP and need to be taken into consideration. If we take culture for lifestyle, it is surely changing. Using large quantities of water is becoming acceptable: people wash cars and homes, sprinkle water in streets, and hardly repair water pipe leaks, letting their taps runningand consequently extracting huge quantities of water blocking others access to it. People use huge amount of water for shaving, brushing their teeth, washing their bodies, and watering their gardens. This all tells that cultural values are changing without favoring environment. Conservation of drinking water and water ethics which were helpful for conserving drinking water are declining and becoming irrelevant to society.

Equity and Inclusion

The *E&I* is a combination of two value based concepts and practices and are closely related. Equity means fairness, inclusion means participation. As a perspective, *E&I* being important in public policy, has prescriptions.It suggests : i) development should be designed for those who need it; ii) the target groups should have a say in conceiving and implementing that development. The *E&I* perspective suggests adopting the principle of fairness in development planning and spending.

A 2006 report published jointly by UNESCO and Berghahn Books entitled *Water: A Shared Responsibility* says "adopting an inclusive approach is essential to securing the sustainability of all forms of life."[17] It also says that the society, economy and ecosystems, all undergo changes but the factors which change them are not mutual. The report suggests that "[g]lobal development must be equitable and inclusive not only of the interests of humanity but also of the natural planetary ecosystems that supports us."[18]

Besides being normative and ethical, the *E&I* is simultaneously an analytical device to judge public policies. An analytical framework helps us, firstly, to isolate if values and resources were allocated to the people who needed them, secondly, to judge whether decisions related to allocation were made in consultation with the people in need of development. The *E&I* perspective is also relevant during the policy implementation.

The *E&I* has implications for drinking water. Water is commonly available resource but since it is scarce, many people do not have access to it. Since people can extract water through hand pumps and wells, it may be difficult to think about exclusion from drinking water. The government decisions regarding water, sometimes may exclude some groups such as religious minority groups and gypsies from accessing safe water supplies.

Responding to *Trends* in Equitable & Inclusive Way

Both of the perspectives, trends and E&I, can be merged for policy analysis. The *trends*—demographic, climatic, privatization, and culture—are interrelated. Water policy's responsiveness to these trends is a measure of its appropriateness. Following the framework developed here, it can be claimed that water policy is good if it responds to the relevant *trends* in equitable and inclusive manner. The *E&I* approach suggests allocating resources and values where they are needed and to include voice of people in the public policy. The *trends* perspective is consistent with *E&I* perspective. The two perspectives combined may help a policy analyst to make a prediction about the outcomes of water policy. Following the brief discussion of perspectives in this chapter, it can be claimed that, if implemented well, the outcomes of water policy will depend on the degree to which it responds to trends in equitable and inclusive manner. This said, I do not make any prediction about the PDWP's success or failure. I also do not claim my work provides authoritative analysis of the PDWP. What I do here is that I analyze the provisions of PDWP in the light of my perspective and provide suggestions for reforming PDWP.

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Chapter 3

Policy Process

We, the citizens, the politicians and the policy makers, have long been taking drinking water for granted. A small number of environmentalists, NGO activists and concerned citizens has been talking about scarcity of water since long but the irony is that it is still small despite the rise in environmental awareness. Our policymakers have particularly been taking water for granted. The availability of abundant water resources in the past might have made policymakers believe water will continue to be available. I characterize this way of thinking and policymaking as *reactive*— reacting to the problems when the problems become serious and unmanageable instead of doing something in anticipation. In the case of water, water policies at the national and provincial levels have been notified in 2009 and 2011 respectively. In both cases, policymaking about water has virtually been undertaken after water had become too scarce and too polluted. While even *reacting* to the alarms of water scarcity and pollution, the water policymaking has ironically been done at federal and provincial levels. This is strange because the drinking water supplies can be managed in a best way at local level, i.e. TMAs—Tehsil and Town Municipal Administrations.

Origins of Policy

The origins of the Punjab Drinking Water Policy (PDWP) can be traced

to the environmental policies of Pakistan: National Drinking Water Policy (NDWP), 2009 and National Environment Policy (NEP), 2005, which were developed largely as a result of the environment advocacy of international donors. Continuing environmental advocacy, international donors such as Water and Sanitation Program (WSP) of World Bank, Unicef and Rural Program Support Network (RSPN) worked for the PDWP.[1] Some senior officers in government of Punjab provided critical support to the process of PDWP formulation. Thinking about making water policy in Punjab actually started in 2007. As a result, Punjab Urban Water and Sanitation Policy (PUW&SP) was drafted. Some of the provisions of the PUW&SP offered practical ways of reforming drinking water supplies. For example, a 2009 World Bank report on reforming Water and Sanitation Agency, Gujranwala suggested the agency to take guidance from the PUW&SP.[2]

In late 2009 Chief Minister Punjab established an authority to regulate drinking water and sanitation in Punjab with Nazir Ahmad Wattoo, President, Anjuman Samaji Behbood, Faisalabd as its Chairman. In fact, it was Wattoo who played a leading role in convincing Chief Minister to legislate Punjab Drinking Water Act. Wattoo led the committee while designing the act and also played important role in undertaking consultations with civil society organizations (CSOs) on drinking water. Hence, we have provisions for CSOs participation in the PDWP.

In government of Punjab, the Housing, Urban Development & Public Health Engineering Department (HUD&PHED) was the focal point for developing PDWP. The Urban Unit, Planning and Development Department (P&DD) was also involved in deliberating the content of PDWP. The central position of HUD&PHED in PDWP is understandable because since long, HUD&PHED has been responsible for planning and implementing drinking water supply and sanitation in the province. Before the promulgation of the Punjab Local Government Ordinance (PLGO) 2001, the HUD&PHED enjoyed monopoly over planning and implementing water, maintaining water supplies and sanitation projects. Later on, PLGO 2001 assigned such functions to the TMAs where the Tehsil Officers, Infrastructure & Services (TO, I&S) were made responsible for water and sanitation schemes. The PLGO, 2001 required the devolution of HUD&PHED to the TMAs but the devolution of HUD&PHED was not

undertaken as envisaged by the PLGO. Hence, the HUD&PHED continues to dominate water and sanitation at provincial level.

Justification of the PDWP

The PDWP claims to respond to three conditions: (i) water scarcity; (ii) environmental degradation; (iii) Millennium Development Goals (MDGs). Following the adoption of MDGs, international donors have played instrumental roles in the preparation of environmental policies including drinking water policies in many countries of the world. In some cases, the donors themselves have drafted drinking water policies for government and in other cases; they have helped governments to draft them. Same is their role in Pakistan.

Ideas, Actors, Outcomes

Knowing about ideas and actors behind a policy is important because policies are built on ideas by the real actors—bureaucratic, political, and donors. The knowledge of interaction between ideas and actors helps knowing politics of policies. A number of actors—government officers, NGOs, politicians and donors—have contributed to the drafting and finalization of PDWP. The PDWP appeals to the donors for more funds.

Initially, the political representatives were not part of drafting the PDWP: the donors and HUD&PHED worked to put ideas together in 2007. When the PDWP was presented to the Chief Minister, in 2010, to seek his approval, the Chief Minister constituted a committee under the chairmanship of his Senior Advisor, Sirdar Zulifqar Ali Khan Khosa and comprising of 40 parliamentarians for the review of draft PDWP.[3] This committee reviewed PDWP in February 2010 and its ideas can be partly known from Khosa's press statements. Four themes came out of Khosa's press statements. Firstly, in early 2010, he promised ambitiously to make clean drinking water available across Punjab by extending drinking supplies to 80% of the urban and 64.65% of the rural people in Punjab.[4] Secondly, by showing concern over water contamination,[5] he vowed to eliminate water borne diseases by 2020.[6] Thirdly, he stressed upon enacting water law and shared that Punjab Assembly was considering passing laws on water and environment.[7] Fourthly, he vowed to expand

the number of water supply schemes. These four themes foreshadow that the committee might have deliberated everyday issues in drinking water. Evidently, the committee avoided deliberating structural issues in water provision both at provincial and local levels.

Components of PDWP

In this section, I describe the components of the PDWP to point out the promises and the silences. The PDWP document begins with providing an overview of the current situation of drinking water. It mentions the problems of drinking water: it acknowledges that half of the population of Punjab does not have access to water supply because the water supply agencies rely on the ground water. The facilities for water storage are missing in Punjab. The water levels are being exhausted through over extraction and leakage. The surface and ground water is being contaminated due to poor regulatory and water insensitive cultural practices. Arsenic levels are high in water in some parts of Punjab. There are no arrangements to repair the expired water related infrastructure. No activities exist for precise statistics collection on drinking water. The budgetary allocations do not correspond to the needs of the people and are "unplanned" and ad-hoc. Moreover, The PWDP describes how important is to rationalize tariffs, to recover cost and installed water meters and to check the quality of water and requirements of the users.

Reading these mentioned problems in the draft, the readers expect PDWP would provide solutions. However, it is difficult to find concrete and specific proposals to the problems it acknowledges. Rather PDWP provides general solutions by making big promises. For example, the PDWP's vision is providing "safe drinking water of an adequate quantity at an affordable cost through equitable, efficient and sustainable services to all citizens by 2020."[8] Most of the readers of PDWP would appreciate PDWP's vision, which says: "In order to translate this vision into reality, the Government of Punjab shall introduce measures to ensure sector reforms, political consensus, judicious need based resource allocations and effective stakeholder/community partnerships." However, given the absence of the specific proposals, the vision loses its value and becomes a slogan. The PDWP is conspicuously silent about how the provincial government will

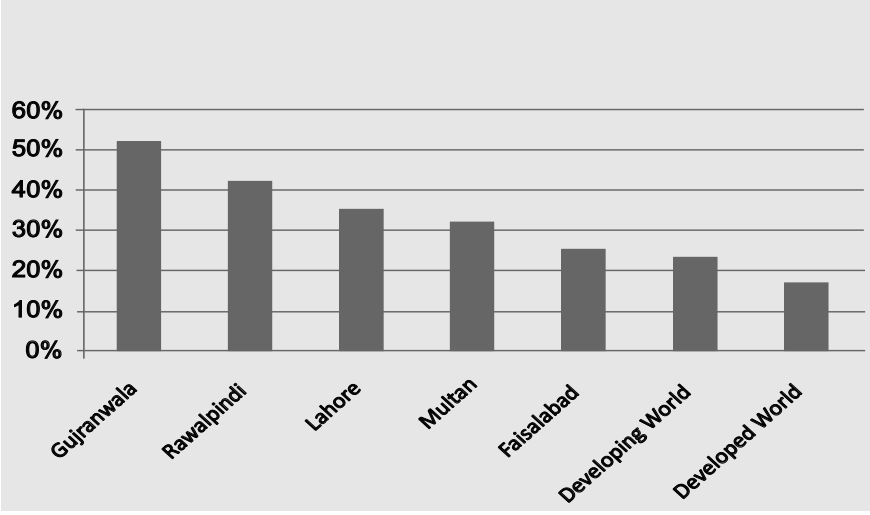
achieve these lofty goals, the achievement of which are largely left to Punjab Drinking Water Strategy being worked at the HUD&PHED.

The PDWP hails private sector and donors' role in water provision. In fact, it urges policymakers to come forward and help the government of Punjab. The PDWP document mentions private sector participation in providing drinking water six times,[9] whereas it mentions donors eight

Table 1: Composition of P-WOPs

Water and Sanitation Operator	Status
Capital Development Authority	Chairman
Karachi Water and Sewerage Board (KW&SB)	Member
North Sindh Urban Services Corporation (NSUSC)	Member
Water and Sanitation Agency Quetta	Member
Water and Sanitation Agency Lahore	Member
Water and Sanitation Agency Faisalabad	Member
Water and Sanitation Agency Gujranwala	Member
Water and Sanitation Agency Rawalpindi	Member
Peshawar Development Authority	Member
WSP-SA	Advisory Member
Urban Unit Punjab	Advisory Member
UN-HABITAT Pakistan	Advisory Member

Figure 1: Unaccounted for Water in Water and Sanitation Agencies (WASAs)



times.[10] Even before the notification of PDWP, Zulifqar Khosa referred the assistance of donors such as World Health Organization (WHO) and Unicef and national NGOs such as National Rural Support Program (NRSP).[11] The PDWP adjudged that the donors and national NGOs approved HUD& PHED's strategy for providing drinking water to the flood affected communities. These allusions to donors assert them as important actors in provincial policymaking. Besides donors, the PDWP also encourages the NGOs and CBOs to assist government and communities to access drinking water. Though the PDWP has acknowledged the role of the NGOs and CBOs, it does not tell how government and NGOs will work together to provide clean drinking water to the all regions of Punjab.

The PDWP's acceptance of private sector's role in water supply indicates the power of neoliberal ideology. Emphasis on private sector is understandable—the international financial institutions (IFIs) are promoting privatization as a panacea for myriad of the governance and development problems. Many countries have already accepted privatization as a desirable thing. In India, for example, the National Water Policy of 2002 provides extensive privatization of drinking water, which has grave implications for the Indian poor. The uncritical acceptance of private sector in PDWP may be problematic as in this sector there is inequity in access to drinking water especially for the poor people.

The PDWP pledges institutional reforms to improve drinking water by reforming WASAs and TMAs. It overwhelmingly provides for revising current tariffs and assures reforming institutional structures of WASAs and TMAs but do not indicate which structural and procedural aspects of them needed reformation. The need for improved monitoring has been elaborated in general terms. Most important and ambitious policy goal regarding cost recovery is to meter all connections of WASAs by 2016 but there is no reference in the PDWP about how to achieve the goal. Improvement of the water delivery is the main purpose among institutional reforms in PDWP and the water delivery will be improved through the means of community participation.[12] The PDWP implies that water supply is a technical issue and can be solved with technical expertise. Its approach is consistent with the World Bank approach to water supply. For example, a 2009 World Bank report on reforming WASA

Gujranwala urged the government to "allow the utility [WASA-G] to make autonomous decisions based on the technical and economic grounds, and isolated from undue political micro-management and interference."[13] Like World Bank, the PDWP also implies that autonomy from the political is a standard for good service.

Another commitment of PDWP is to deal with water loss as water leakages and non-revenue water are important problems in drinking water. A 2008 book *Water Loss Control* tells that all countries, rich and poor, experience water losses through water pipelines, reservoir leakages, households plumbing, water thefts and non-billing. The book regards water losses through the leakage as real losses while the uncharged water as apparent losses. The unbilled water is also called non-revenue water (NRW). The amount of water lost in developing countries is huge: it is enough for 200 million people.

The WSP is currently working on Service Delivery Assessment to reduce water losses. WSP's Global Water Operators Partnerships Alliance (GWOPA), UN-Habitat Pakistan, and Urban Unit, P&DD launched Pakistan Water Operators Partnerships (P-WOPs) in March 2011 during Pakistan Urban Forum of the Urban Unit. The P-WOPs composed of the urban water supply and sanitation operators in Pakistan. UN-Habitat and WSP are supporting P-WOPs. The main aim of the network was to strengthen the capacities of the water operators in the areas of safe drinking.

Table 2: Composition of Implementation Committee

Position	Position in committee
Minister, Planning & Development Department	Chair
Four Elected Representatives Representing Four Zones	Member
Chairman, Planning & Development Board	Member
Secretary, Local Government & Community Development Department	Member
Secretary, Irrigation & Power Department	Member
Secretary, Environment Protection Department	Member
Project Director, Urban Unit, Planning & Development Department	Member
Representative of private sector/civil society	Member
Secretary, Housing, Urban Development & Physical Health Engineering Department	Member/Secretary of the Committee

(Source: *Punjab Drinking Water Policy,* 15)

Both kinds of water losses have negative implications for *E&I* because the leakages reduce the amount of water in the water supply system. The NRW constrains the ability of the water supply agencies and is largely responsible for poor cost recovery. Without cost recovery, the water supply agencies cannot improve their service. Various international agencies have estimated the levels of unaccounted-for water in developing countries. In 1996, World Bank found the amount of unaccounted-for water quite high: between 37% and 41%, in developing countries. WHO and Unicef's 2000 estimates for unaccounted water in developing countries were consistent with the World Bank's 1996 estimates. In contrast, the rate of unaccounted-for water in North America was 15%.

Almost on daily basis, large quantity of freshwater is wasted across Pakistan. Besides citizens, the water suppliers themselves waste huge amount of water. According to a 2009 estimate of LEADS Pakistan, Pakistan loses 2.3 billion gallons of water annually. In fact, "[p]er capita water availability has dropped 500 percent since 1947."[14] Water leakage is a serious problem even in the capital city of Pakistan. Islamabad's rusty and dilapidated pipelines leak 30 million gallons of water daily, which is not less than the storage capacity of Simly Dam. A Capital Development Authority official reported that Planning Commission has made a plan worth Rs 11 billion to repair and install new pipelines for water supply in Islamabad whereas the CDA was required to replace its water pipelines every decade. The CDA, according to the officials, was contacting a donor agency for funds.[15]

The PDWP, again acknowledging water leakage problems, sets highly ambitious goal of controlling them by 2015.[16] It provides metering the water connections[17] and calls for making budgetary commitments for replacing rusted pipes with new ones.[18] There are no clues in the PDWP about the means to achieve this goal.

Moreover, it also acknowledges that water supply related institutions are weak regarding them as "vague institutional framework," "weak capacities," and "overlapping mandate".[19] The PDWP is particularly sensitive to the implications of institutional problems for the relations between government and donors. It says: "this ambiguity exacerbates coordination problems within government agencies and with donors."[20]

The PDWP is surprisingly silent over the centrality of TMAs in water delivery although, under the PLGO, 2001, except in the big cities, the TMAs are responsible for the delivery of drinking water. The PDWP just mentions TMAs problems of poor operations, non-metering, and cost recovery.

Policy Instruments are important to achieve the purpose of policies. Simply put, a Policy Instrument is a method which is used to achieve the policy goal. For example, cost recovery is considered one of the best economic instruments for water policies in neoliberal times. The PDWP's section of Policy Instruments talks about activities assigned by the PDWP to various actors. Various functions have been assigned to various provincial departments, TMAs, private sector, universities, donors, NGOs and communities. Instead of writing about Policy Instruments, the PDWP talks about seeking donors support for institutional reform. Besides, it also seeks donors' financial support for drinking water projects.[21] The duties assigned to various agents— the government agencies, the private sector, the donors, the NGOs, the communities—in Policy Instruments section are not mandatory but voluntary.

Financial allocations have been declared as meager in the PDWP. It is acknowledged that the allocations are "not tied to any objective criterion."[22] Though the PDWP promises providing "adequate allocation of resources out of provincial budget (or ADP)," it does not develop any "objective criterion," which was identified as the reason of inadequate budgetary allocations. It just says financial resources will be allocated to the drinking water sector "on the basis of need based criteria.[23] The committee constituted to implement PDWP has little role in deciding allocations for the drinking water. In the absence of precise criteria for allocations, the PDWP claims to "ensure" the "identification of schemes on the basis of established criteria." Besides, provision has been made to get the schemes evaluated by the "community as a third party validator," "neutral consultant," and "resident supervisors."[24] Considering the absence of discussion on Policy Instruments in the section, the policy mentions its instruments in passing in the earlier sections. The community has been celebrated in such a way as if the community participation will itself resolve the problems of drinking water. The HUD&PHED is arranging resources to rehabilitate the dysfunctional rural water supply schemes

with community participation.

The PDWP worries about the waste of electricity in extracting and supplying water and calls for using "energy efficient equipment" and "alternate sources of energy."[25] This provision helped the HUD&PHED secure donor assistance for three models of alternate source of energy.

The policy provides for creating awareness among the public on drinking water related issues such as adequate way of consuming water, water scarcity and water pollution. It intends to use media, schools, community workers and NGOs for creating awareness on drinking water issues. It claims to empower the ordinary people about the water issues by including them in the planning and implementation of water schemes.[26]

The first meeting of the Implementation Committee was held on 18 June 2012. The committee made recommendations to bring together HUD &PHED, Local Government and community Development Department (LG & CDD), and NGOs. Besides, the Committee also suggested measures to make urban water supply, sewerage and drainage schemes sustainable. How these suggestions do influence drinking water and its provision would be known in future. (See Appendix I for the official notification of Implementation Committee).

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Chapter 4

Reflections on Policy Process

Punjab Drinking Water Policy (PDWP) took a long time to get finalized. A range of actors contributed their ideas based on their beliefs, interests and aspirations. The highest authority in Punjab, the Chief Minister, demonstrated interest in the PDWP by appointing a committee comprising MPAs-Members Provincial Assemblies and MNAs-Members National Assembly. The PDWP affirmed drinking water in Punjab was in deep crisis and needed immediate steps. In this chapter, I examine various sections of policy using the framework of analysis developed in Chapter 2.

The vision and goals of the PDWP are highly ambitious. Like in other policies, the drafters of PDWP have set the goal of universalizing access to safe drinking water by 2020. The practicality of achieving the goal of universalizing safe water supply, considering the financial and administrative problems mentioned in the PDWP, is a big question. It is implausible that without major structural changes the goals of the PDWP can be achieved. The administration of drinking water supply by provincial government will incur higher costs than the same work done by the TMAs. In case of provincial control of drinking water services, the capacity of the TMAs will hardly be built.

This indicates that provincial centralization of development projects poses a major problem to the development. Reza Ali says that the Tehsil Municipal Administrations (TMAs) are best suited to undertake water supply planning

and design. Instead of a single provincial policy for water, he suggests, the TMAs should plan water according to their local needs.[1] The Crown Agents suggests local governments are in better position than provincial line departments to deliver services such as water.[2] In 2011, the Tehsil Municipal Officers (TMOs) of Lodhran, Kehror Pakka, Muzaffargarh, Bahawalpur, Yazman, and Jampur reported they faced problems in running the water schemes handed over to them by the HUD&PHED.[3]

Despite the Punjab Local Government Ordinance (PLGO), 2001 provision for TMAs as responsible for providing water and sanitation, the TMAs have not been strengthened. Both district and provincial governments are providing water schemes which will not let TMAs become prime agencies in water and sanitation. In 2006-07, for example, district governments spent sizable amounts of money on water and sanitation schemes.

The PDWP provides for prioritizing disadvantaged geographical areas. It does not, however, provide for social, religious and cultural disadvantages. It is silent about social and cultural bases of disadvantages. Communities belonging to minority religious groups are excluded from the water supply services, however, the PDWP does not talk about excluded and marginalized groups. Many other groups also remain excluded from the drinking water supply. The social exclusion is largely cultural but it is also institutional. A number of groups are excluded from water provision in Punjab because institutional discrimination is rampant against them. The dynamics "potable drinking water is not available in the settlements of scheduled castes."[4] With acknowledging exclusion and marginalization, the exclusion can't be reduced. WaterAid Pakistan's experience suggests that the Christians and Hindus face problems in accessing services in water, sanitation and hygiene. The minorities are generally not consulted in the process of development planning related to water. In Bahawalpur, Hindus report they were denied water supply by the TMA.

Poverty and lower social status are major determinants of social exclusion. The minorities are generally poorer. Since the people of minority religion live in exclusive communities, they face difficulties in accessing drinking water supplies. The nomads and transgender people also face difficulties in getting water supply connections. There were many complaints in Sindh, where government aid workers refused to serve the Hindu victims of flood. The

portrayal of Hindus in negative ways by some right wing organizations make water supply agencies in Bahawalpur district treat Hindus requests for water supplies as trivial. Sanitary workers in Lodharan and Yazman reported their clients refused to serve them with water at work.[5]

On the face of it, the participation of the legislators in the drafting of PDWP is appreciable. However, the formulation of policy did not attract as much attention of the legislators as the water problems demanded. The provisions of the policy were not debated in the provincial assembly. The meetings of the legislators committees were not held as planned.

The politics of development is such that water supply schemes are being constructed following the politicians demands. Not only the MPAs, MNAs and Senators spend parts of their development funds for water schemes but the provincial government also spends budgets for water schemes under political considerations. In the wake of poor cost recovery, the monies spent on water sector result in losses. Cost recovery is not easy: according to Salman Yusuf, Deputy Secretary (Technical), HUD&PHED, a water supply scheme recovers its cost in 15-20 years. The HUD&PHED continues owning most of the water schemes without recovering costs from the users. The TMAs are also unable to recover cost which impinges on their capacity to improve services.

The complaints of corruption have become common place in Punjab. The contractors can easily influence the contracting processes. The bribes paid by the contractors for securing contracts are ultimately transferred to the consumers. As a result, the quality of infrastructure developed by the contractors is generally questionable. The case of water filtration plants installed in Lahore illustrates this point well. The plants had inadequate machines and they were hardly maintained. Their taps were of highly poor quality due to which they were often broken.

The mindset is also important. Engineering approaches have traditionally been dominant in water supply. A 2009 report published by Asian Development Bank (ADB) entitled *Impact of Water and Sanitation Schemes in Punjab*, Pakistan suggests that the "social engineering approach" introduced in HUD&PHED and irrigation department during the 1980s achieved "limited success" because "engineering-minded management" did not accept it. The engineering mindset as the cause of failure may be contested. For example, Salman Yusuf of the HUD&PHED says it was not primarily the engineering

mindset but the availability of alternative sources of water supply which contributed to the failure of the water supply schemes. The other findings of the report are also important. Firstly, it points to the existence of multiple players in water sector. The TMAs have not been developed as "one window" agencies for water and sanitation. The overlapping between HUD&PHED and the TMAs does not end. The capacities of the NGOs could also not be used in highly rewarding manner. Secondly, no government department was looking after the rural sanitation. Secondly, the MPAs, MNAs and Senators water schemes were generally unfeasible and inconsistent with the water policies. Such schemes can easily become dysfunctional due majorly to the lack of community participation.[6] Thirdly, motivation deficits among local government officials make the realization of devolution goals difficult.[7] Fourthly, the TMAs capacities for planning were limited. Fifthly, TMAs lack of interest in mobilizing communities' participation in their programs. Sixthly, the TMAs do not have cost recovery mechanisms in place.[8]

According to the ADB, HUD&PHED has accorded least importance to the cost recovery. The provincial government does not allocate development funds to the HUD&PHED on the basis of cost recovery. The HUD&PHED does also not allocate money to the water schemes on the basis of cost recovery by the field offices.

The PDWP encourages private sector's role in drinking water supply but it is silent about regulating private sector. The private water companies, bigger and small, are beneficiaries of pro private sector provisions of the PDWP. As elsewhere, private water supply is becoming profitable business in Punjab, too. A typical water company tells us that we need eight glasses a day to maintain health. No mechanism is available to regulate quality and prices of private water. The bottled water is becoming common place; it is available even in remotest areas of Punjab. The very pervasiveness of bottled water necessitates its regulation. The PDWP does not even set minimum technical requirements such as hiring at least one engineer and one water quality tester for private water companies. Similarly, the PDWP is silent about putting limits on water extraction by private water companies. The HUD&PHED says that the task of regulating water would be accomplished after the enactment of Punjab Water Act by 2013.

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[6] The value of community participation in rehabilitating the dysfuctional water schemes is immense but the model of community participation needs to be selected carefully. The government should learn from the life time experience of Nazir Ahmad Wattoo who thinks that community participation should be properly designed. He founded "Changa Pani Program" in 2009 in Union Council 60 of Lahore. The program works through Water and Sanitation Committees (WASCOs), which runs water supply on total cost recovery. The residents pay for the water and in return get reliable water supply from WASCO. Wattoo says Changa Pani's community participation model should be adopted by the HUD&PHED to rehabilitate the dysfuctional rural water supply schemes in the province. For more information on Changa Pani Program, see http://www.asb.org.pk/

[7] This is very important point. Arif Hasan has stressed its importance many times. He is convinced that development in Pakistan is difficult to realize without strong and accountable bureaucracy.

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Chapter 5

Budget for Drinking Water

The allocation of budget tells a lot about the priorities of governments. The public policies need budget in order to achieve their set goals. The achievement of policy goals is largely contingent upon appropriate budgetary allocations and their effective spending. The decisions to spend public budgets have a direct bearing on the welfare of the people. The document of Annual Development Programme (ADP), which is also called Development Budget, carries information about the planning and budgetary allocations for projects development. The ADP is prepared at the Planning and Development Department (P&DD) based on the schemes drafted by the line departments. In this chapter, I try to describe salient features of allocations for water supply. On the basis of this chapter, later on, I will try to discuss links between ADP and Punjab Drinking Water Policy (PDWP) in Chapter 6.

It is important to note that the entire budget for drinking water is not reflected in the allocations for the Water Supply & Sanitation Sector and is widely dispersed. Besides, Water Supply and Sanitation Sector, drinking water schemes are not reflected under Regional Planning and Urban Development sectors.

The allocations for water supply have increased in recent times. Ten years ago, little money was allocated for water. A 2002 report published by Asian Development Bank (ADB) entitled *Punjab Community Water*

Supply and Sanitation Sector Project said that, in 2002, Punjab government allocated only 0.18% of its Gross Domestic Product (GDP) for water. Compared to this, in 2011, the total allocations for drinking water were significantly high.[1]

Size of the Portfolio by ADP Sectors

The term portfolio means number of schemes and their cost. Cost of a scheme is different from its allocation. Usually scheme allocations are much smaller compared to schemes costs. The Punjab government usually starts a number of high cost development projects and complete them by allocating budget in ADP for many years. The comparison between costs and allocations in the current ADP will illustrate this point. Of the 2011-12 budget of Rs 654.750 billion, Rs 220 billion have been allocated to the ADP. In total, the ADP contained 311 drinking water schemes at a cost of Rs 58,255.149 million. It funded 297 ongoing and 14 new schemes. The cost of 14 new schemes is Rs 31,714 million and is higher than the cost of 297 ongoing schemes, i.e. 26,540.90 million.

Table 3: Size of the Portfolio: Summary by ADP Sectors, 2011-12 (In Million Rupees)

Sectors	On going			New Schemes			
	No. of Scheme	Amount in Million Rupees	Percentage %	No. of Scheme	Amount in Million Rupees	Percentage %	Total
Urban Development	10	10,225.269	27.55	9	26, 894.248	72.45	**37,119.517**
Regional Planning	15	324.842	100				**324.842**
Water Supply & Sanitation	272	15990.79	76.84	5	4820.00	23.16	**20, 810.79**
Total	**297**	**26, 540.90**		**14**	**31, 714.248**		**58, 255.149**

The comparison of cost between ongoing and new schemes partly explains why development schemes in water supply complete in longer durations of many years. The reason is simple: the new schemes are initiated without completing the older ones. The new schemes started this

year, become ongoing, next year. The longer the time a scheme takes in completion, the expensive it becomes due to increase of costs of the inputs. As a result of this way of allocating money, some schemes remain nonfunctional. An example will illustrate this observation: sometimes, water reservoirs are constructed but tube wells are not installed leaving the schemes nonfunctional.

In ADP documents, water supply schemes appear in three sectors: Urban Development; Regional Planning; and, Water Supply & Sanitation. The cost of 19 schemes under Urban Development sector is Rs 37,119.517 million. The cost of Water Supply & Sanitation sector was Rs 20,810 million whereas the cost of Regional Planning sector was Rs 324.842 million. The schemes in Urban Development sector were given for five Water and Sanitation Agencies (WASAs). The schemes in Water Supply & Sanitation sector have been spread across Punjab. The schemes in Regional Planning were designed only for Rahim Yar Khan.

Table 4: Size of the Portfolio: Summary of Composition of ADP, 2011-12 (In Million Rupees)

Heads of Schemes	Urban Development			Regional Planning			Water Supply & Sanitation			
	No. of Schemes	Amount in Million Rupees	%	No. of Schemes	Amount in Million Rupees	%	No. of Schemes	Amount in Million Rupees	%	Total
Replacement of Outlived Rusted Water Supply lines	5	3148.057	73.86				12	1114.311	26.14	**4262.368**
Rehabilitation of Water Infrastructure	2	191.12	9.94				78	1731.118	90.06	**1922.238**
Provision of Water Supply	9	32670.34	68.12	15	324.842	0.68	185	14965.361	31.20	**47960.543**
Changa Pani Project	1	250.000	100							**250.000**
Saaf Pani Project							1	2000.000	100	**2000.000**
Block Allocation	2	860	46.24				1	1000.000	53.76	**1860.000**
Total	**19**	**37119.52**		**15**	**324.842**		**277**	**20810.8**		**58255.149**

Besides sectors, ADP categorizes schemes under six heads which have been designed according to the type of schemes. The six heads are: (i) Replacement of Outlived Rusted Water Supply Lines; (ii) Rehabilitation of Water Infrastructure; (iii) Provision of Water Supply; (iv) Changa Pani Project;[2] (v) Saaf Pani Project; (vi) Block Allocations. Block Allocations do not indicate a type of development scheme as they can be used for any scheme (See below). The cost of Block Allocations is Rs 1,860 million as compared to 1922.238 million for Rehabilitation of Water and Rs 2,000 million for Saaf Pani Project. The number of schemes in Provision of Water Supply sectors is 185 designed at the cost Rs 47,960.54 million. The approach of Changa Pani Project, acclaimed as a best practice, has not been extended. The schemes reflect no change in the way of government's development work.

Size of the Allocations by ADP Sectors

Allocation means the money allotted by the government for a scheme in a given duration. The total allocation for the drinking water schemes was Rs 9,408.529 million, only 16% of the total cost of the portfolio, i.e. Rs 58,255.149 million. The total cost of Urban Development schemes—ongoing, new and Block—is Rs 37,119.517 while their allocation is Rs 2, 301.823 million, only 6.20% of the total cost. This difference is huge suggesting planning without having financial resources in hand.

The ongoing and new schemes should not be compared merely on numbers. The 297 ongoing schemes were allocated only Rs 3,032.040 million, the 14 new Rs 6,376.288 million. The allocation for the 14 new schemes is more than double of the allocation of 297 ongoing schemes.

Sector wise, the schemes in Water Supply & Sanitation sector received highest allocation of Rs 7,007. 96 million followed by Rs 2,301.83 million to Urban Development sector. The schemes in Regional Development sector received Rs 98.802 million.

Besides sectors, the ADP also categorizes schemes under various heads. The comparison of cost and allocation within the Provision of Water Supply is instructive. The cost of the Provision of Water Supply scheme was Rs 47,960.54 million whereas allocation was only Rs 3,611.189 million. This is only 7.52% of the cost. The total allocation under Rehabilitation of

Table 5: Size of Allocation: Summary by ADP Sectors, 2011-12 (In Million Rupees)

Sectors	On going			New Schemes			
	No. of Scheme	Amount in Million Rupees	Percentage %	No. of Scheme	Amount in Million Rupees	Percentage %	Total
Urban Development	10	745.540	32.39	9	1556.288	67.61	**2,301.83**
Regional Planning	15	98.802	100				**98.802**
Water Supply & Sanitation	272	2187.962	31.22	5	4820.00	68.78	**7007.96**
Total	**297**	**3,032.30**		**14**	**6376.288**		**9,408.592**

Water Infrastructure head was Rs 755.566 million, which was 8.03% of the allocations for the drinking water. Replacement of Outlived Rusted Water Supply Lines got Rs 1,131.837 million, which is 12.03% of the water allocations. Provision of Water Supply schemes got Rs 3,611.189 million, 38.38% of the water related allocations.

Table 6: Size of Allocation: Summary of Composition of ADP, 2011-12 (In Million Rupees)

	Urban Development			Regional Planning			Water Supply & Sanitation			
Heads of Schemes	**No. of Schemes**	**Amount in Million Rupees**	**%**	**No. of Schemes**	**Amount in Million Rupees**	**%**	**No. of Schemes**	**Amount in Million Rupees**	**%**	**Total**
Replacement of Outlived Rusted Water Supply lines	5	606.991	53.63				12	524.846		**1, 131.837**
Rehabilitation of Water Infrastructure	2	30.887	4.09				78	724.679		**755.566**
Provision of Water Supply	9	753.95	20.88	15	98.802		185	2, 758.437		**3, 611.189**
Changa Pani Project	1	50.000	100							**50.000**
Saaf Pani Project							1	2, 000.000	100	**2, 000.000**
Block Allocation	2	860	46.24				1	1, 000.000	53.76	**1, 860.000**
Total	**19**	**2301.828**		**15**	**98.802**		**277**	**7, 007.96**		**9, 408.592**

Spreading of Allocations

The spread of allocations is important. It is not easy to balance smaller and bigger projects in a given budget. If the available money is spent on big projects, the spending may be economical. In 1960s, the governments in developing countries have been spending public money for mega projects believing that their effects will trickle down. The big infrastructures constructed with huge sums of money, however, did not trickle down. It does not mean that all bigger schemes have negative features only. They have positive side too i.e. they incur fewer costs in construction and operations. In Pakistan, the trend of spending public funds on smaller projects started taking place both as a realization of the failure of big projects, political pressures and lack of planning. However, distribution of public funds for too many smaller projects is not without problems.

Table 7: Schemes under Rs 100 Million (In Million Rupees)

Head	under 100 Million	Total Schemes
Urban Development- Ongoing Schemers	7	10
Urban Development- New Schemes	4	9
Regional Planning-Ongoing Schemers	15	15
Water Supply & Sanitation-Urban - On going	52	56
Water Supply & Sanitation-Rural - On going	215	216
Water Supply & Sanitation-New Schemes	0	5
Total	**293**	**311**

Since many years, the trend of ADP in Punjab is to allocate resources to smaller projects. This way of allocation is termed as *thin* spreading. In ADP 2011-12, the number of schemes which got more than Rs 100 million was only 5.69% of the total schemes. The number of development projects is

increasing whereas the size of allocation to individual projects is decreasing. In ADP of 2010-11, small projects worth Rs 100 million or less were around 75%. Of the 311 water supply schemes included in ADP 2011-12,293 have been allocated less than Rs 100 million each. Together, they constitute 94.2% of the total water related schemes. The number of schemes under Rs 25 million is 275, which is 88.42% of the total water supply schemes. The increasing number of small projects increases the costs not only of development but also of executing the schemes.

Table 8: Schemes under 25 Million (In Million Rupees)

Head	Under 25 Million	Total Schemes
Urban Development- Ongoing Schemers	5	10
Urban Development- New Schemes	2	9
Regional Planning-Ongoing Schemers	15	15
Water Supply & Sanitation- Urban - On going	40	56
Water Supply & Sanitation- Rural - On going	213	216
Water Supply & Sanitation- New Schemes	0	5
Total	**275**	**311**

Approved and Unapproved Schemes

Ideally, all development schemes should appropriately be approved by the competent authorities before they are included in the ADP. The ADP 2011-12 has included 15 unapproved water supply schemes, which is encouraging but these 15 unapproved schemes got more money than 296 approved schemes. The total allocation to unapproved schemes was Rs 6, 186.288 while the total allocation to the approved schemes was Rs 3, 222.299 million leaving a huge difference, almost double. Generally, the unapproved schemes included in the ADP under political pressures increase the likelihood of diverting funds and lessening the speed of completion of schemes. In approved schemes, the allocations are 10.40% of the total cost whereas, in unapproved schemes, the allocations are 22.68% of the total cost. Tellingly, the government has privileged the unapproved schemes.

Table 9: Cost and Allocations of Approved Schemes (In Million Rupees)

Cost of Approved Schemes	# of Schemes	Cost	Allocation
Urban Development-Ongoing Schemers	9	10,125.27	735.535
Urban Development- New Schemes	1	5,133.96	300
Regional Planning-Ongoing Schemers	15	324.842	98.802
Water Supply & Sanitation-Urban - On going	55	11401.516	1235.43
Water Supply & Sanitation-Rural - On going	216	3989.274	852.532
Water Supply & Sanitation-New Schemes			
Total	**296**	**30,974.86**	**3, 222.299**

Table 10: Cost and Allocation of Un-Approved Schemes (In Million Rupees)

Cost of Un-Approved Schemes	# of Schemes	Cost	Allocation
Urban Development-Ongoing Schemers	1	100.00	10
Urban Development- New Schemes	8	2, 1760.288	1, 256.288
Regional Planning-Ongoing Schemers			
Water Supply & Sanitation-Urban - On going	1	600.000	100.00
Water Supply & Sanitation-Rural - On going			
Water Supply & Sanitation-New Schemes	5	4, 820	4, 820
Total	**15**	**27,280.29**	**6,186.288**

The unapproved allocation of Rs 1,256.288 million to Urban Development gives significant mileage to the Punjab government to use funds for the schemes which will bring political benefits to the ruling party. Allocating money for electoral gains may not be as problematic as to make electoral benefits the only criteria in allocations.

Geographical Variations in Allocation

The spread of allocations to the districts demonstrates an inequitable distribution. The major districts, i.e. Lahore, Gujranwala, Faisalabad, Rawalpindi, and Multan got bigger funds. Among the medium sized districts, Sahiwal got only a million rupees whereas Toba Tek Singh got Rs 234.797 million. The districts in South Punjab got 8.20%, Central Punjab 77.21% and Pindi region got 14.591%. In short, these percentages indicate inequity in funds distribution but the scale and the degree of inequality is not easy to determine. Besides population, needs of particular area may

Table 11: Allocations for Districts of Central Punjab (In Million Rupees)

Central Punjab	Urban Development	Urban Development-New	Regional Planning	W & S In Urban - Ongoing	W & S In Rural - Ongoing	Total
Lahore	245.703	341.288		1.095		588.086
Pakpattan					204.151	204.151
MandiBahauddin				2.000	8.431	10.431
Jhang				20.291	1.839	22.130
Sahiwal					1.000	1.000
Kasur				162.000	60.579	222.579
Nankana Sahib				20.000	10.792	30.792
Sheikhupura				57.500	22.997	80.497
Narowal					6.558	6.558
Sialkot				2.27	25.163	27.433
Gujrat				109.424	7.942	117.366
Gujranwala	100.000	5.000		20.716	29.857	155.573
Toba Tek Singh				209.837	24.96	234.797
Faisalabad	315.849	350.000		48.224	56.38	770.453
Khushab				100.000	13.776	113.776
Sargodha				163.055	19.361	182.416
Chiniot	24.848					24.848
Okara					10.228	10.228
Mianwali				53.826	21.952	75.778
Total	**686.4**	**696.288**	**0**	**970.238**	**525.966**	**2878.892**
Total Allocation	**745.54**	**696.288**	**98.802**	**1335.43**	**852.532**	**3728.592**
%	**92.07**	**100.00**	**0.00**	**72.65**	**61.69**	**77.21**

demand higher allocations. The example of Kasur illustrates this fact where the relatively bigger allocation of Rs 222.579 has been made because of the contamination spread by its tanneries.

Table 12: Allocations to Districts of South Punjab (In Million Rupees)

South Punjab	Urban Development	Urban Development-New	Regional Planning	W & S In Urban - Ongoing	W & S In Rural - Ongoing	Total
Bahawalnagar				10.791	8.002	18.793
Bahawalpur				12.704	14.720	27.424
Dera Ghazi Kkhan				35.101		35.101
Layyah					11.000	11.000
Lodhran				1.631	4.646	6.277
Multan	49.135				30.464	79.599
Rajanpur				0.94	8.338	9.278
Rahim Yar Khan			98.802	4.827	4.129	107.758
Vehari					10.419	10.419
Total	**49.135**	**0**	**98.802**	**65.994**	**91.718**	**305.649**
Total Allocation	**745.540**	**696.228**	**98.802**	**1335.430**	**852.532**	**3728.592**
%	**6.59**	**0**	**100**	**4.94**	**10.76**	**8.20**

Table 13: Allocations to Districts of North Punjab (In Million Rupees)

Northern Punjab	Urban Development	Urban Development-New	Regional Planning	W & S In Urban - Ongoing	W & S In Rural - Ongoing	Total
Rawalpindi	10.000			243.627	209.048	462.675
Jhelum				52.395	7.879	60.274
Chakwal				2.976	11.696	14.672
Attock				0.200	6.225	6.425
Total	**10.000**	**0.000**	**0.000**	**299.198**	**234.848**	**544.046**
Total Allocation	**745.54**	**696.288**	**98.802**	**1335.43**	**852.532**	**3728.592**
%	**1.341**	**0.000**	**0.000**	**22.405**	**27.547**	**14.591**

Block Allocations

Block Allocations mean allocating money for unidentified, unplanned and new schemes. It gives enormous power to the Chief Minister to allocate money. Block Allocations being used to initiate new schemes has the huge size in ADP 2011-12, however, relatively small size in water supply schemes. The total Block Allocations for water schemes in ADP 2011-12 was Rs 1,860 million, which is 19.77% of the total ADP allocations

for water supply schemes. The Urban Development sector received bigger amount of Block Allocation—Rs 860 million for two Urban Development schemes.

Foreign Assistance

Foreign assistance is included in the ADP. The total money contributed by the foreign donors for drinking water supply schemes in the ADP of 2011-12 was Rs 350 million, which is 3.72% of the total water supply schemes in ADP. The foreign assistance flows towards three schemes in Urban Development head. Of the Rs 350 million of foreign aid, Rs 100 million has been allocated to ongoing whereas Rs 250 million to the new schemes.

Throw Forward

Throw forward in budget means passing the cost of the schemes to the budgets of next years. Development budgets at all levels have huge throw forwards in Pakistan. The total throw forward in ADP 2011-12 was 4, 907.417 million.

Table 14: Throw Forward (In Million Rupees)

Head	Throw Forward
Urban Development- Ongoing Schemers	1305.997
Urban Development- New Schemes	
Regional Planning-Ongoing Schemers	0.000
Water Supply & Sanitation- Urban - On going	3122.037
Water Supply & Sanitation- Rural - On going	479.383
Water Supply & Sanitation- New Schemes	
Total	**4907.417**

Revisions of the ADP

The ADP, howsoever, it is designed, is not followed by the government. The government may revise ADP to include new schemes, to end slow performing schemes and to divert the allocated funds for other uses. These revisions have implications for transparency and accountability of the development funds.

References

[1] This chapter has been written on the basis of Annual Development Programme. For information, see Government of Punjab. *Annual Development Programme 2011-12 (Medium Term Development Framework 2011-14), Vol. I*. Lahore: Government Printing Press, 2011; ——. *Annual Development Programme 2011-12 (Medium Term Development Framework 2011-14), Vol. II*. Lahore: Government Printing Press, 2011.

[2] Based on the success of Changa Pani Program of the Anjuman Samaji Behbood, the Punjab Government included Changa Pani Program as a project in the ADP for the year 2011-12 for Mohallah Shamsabad (UC-200), Faisalabad. This is a significant step as the government adopted the model of an NGO in water sector. However, there is lot to be done to adopt Changa Pani's model at a large scale in Punjab.

Chapter 6

Reflections on Water Budget

This chapter is about examining the Annual Development Programme (ADP) allocations for drinking water and the relationship between policy and ADP allocations. Generally, the budgets are not neutral instruments but the development budgets are particularly political. Therefore, it is important that budgetary allocations should be responsive to the perspective outline in Chapter 2. Since budgets do not benefit various groups of people equally, it is important to ask who takes benefits from the public spending as misallocated budgets may be harmful for some people.

Apparently, the ADP allocations seem small but in reality, they are not small. Small allocations are not a problem in itself rather it is the way of allocations which has the problems of uncoordinated planning, dispersed spending and corruption leading to ineffective policy. If allocations are planned and spent well, they can help government provide safe water to hundreds and thousands of people.

Policy, Planning, Budgeting

Ideally, public policy, planning and budgeting should be related. The public policies should guide the planning process by providing framework for planning processes. The core purpose of planning is to delineate ways to put the policies into practice. Analysis of Punjab Drinking Water Policy

(PDWP) and ADP reveals that policy, planning and budgeting are being done as isolated exercises paving way to inconsistency. The ways in which development budgets are allocated, the development planning is less effective because of the inconsistencies between approvals of projects and financial allocationsto them. Allocations are made to the unapproved schemes. The significant size of the Block Allocations undermines the planning process. Moreover, the projects are approved without money and money is not released for projects as committed. Financial cuts to the development allocations pose another danger. Crown Agents report tells that the great number of the development projects in the ADP is funded inadequately in 2010-11. The report dubs ADP as incremental with poor connections between projects and sector goals.[1] The Government of Punjab acknowledges these issues and has started ADB assisted *Punjab Government Efficiency Improvement Programme* (PGIEP) to address them. One of the targets of the PGIEP was to reduce the share of unapproved schemes in the ADP.[2]

Equity and Inclusion

The financial allocations for drinking water fall short on the *E&I*. The funds have not been distributed equitably between rural and urban areas. The cities in North Punjab get major share of funds. The cities facing extreme water problems get fewer schemes than the cities with relatively less water problems. Similarly, the ongoing schemes get more funding. No money has been allocated to the building the capacity of the private water suppliers and to the NGOs. It is plausible that people belonging to minorities will benefit from the drinking water allocations. However, none of the schemes have been designed exclusively for the minority people. The exclusion is located in the settlements of the minorities. The cities with sizable minority populations face greater degrees of exclusion from the water supplies. My interviews with five Hindu and five Christian activists in Yazman, in November 2011, reveal that only the powerful politicians representing certain minority could manage to secure water supplies for their co-religionists. A Hindu ex-councilor was pressurized by his Muslim colleagues to surrender his share of development funds for Muslim constituencies in exchange of financial rewards and convinced him

that the Hindu population did not need development. Such prejudice is not limited to the councilors and other politicians rather the institutions of urban services also, sometimes, play their part as well. The prejudice against minorities is the major factor behind the lower or zero financial allocations for the minorities.

Duration of Completion

The longer duration of completing development schemes increases the cost of the projects manifold along with the bewilderment of rationality of the schemes. On 22 April 2012, Bhatti reported that water supply scheme in Bahawalpur was unable to function.[3] Hum Shehri, a Lahore based magazine reported the closure of water filtration plants in Punjab.[4] Corruption is one thing but the inadequate planning sometimes has significant negative repercussions for development budgets than corruption. In addition, gaps exist between real and needed allocations. The finances are hardly allocated as planned in the Planning Commission's Project Performa or PC-Is. The ADP of 2003, for example, provided 55% of the demands of the projects.[5] According to a report by Jawwad Rizvi, only 45.80% ADP allocations were used during the nine months of 2008-09. Of the Rs 155 allocated in the ADP, Rs 112 billion were released, but only Rs 71 billion were spent by the end of March 2009.

External Assistance

The increased dependency upon donors for water sector is again worrisome. Samia Waheed Altaf, in her book, *So Much Aid, So Little Development: Stories from Pakistan* (Baltimore: The Johns Hopkins University Press, 2011) has pinpointed how development aid did not work in Pakistan. She claims that Social Action Program (SAP) failed because of its "[g]randoise, unrealistic, and fuzzy objectives…without any clear implementation strategies or commitment for associated infrastructure support…"[6] She also says that SAP was "poorly-thought-out and mostly chaotic process of program design."[7] Considering her argument, the PDWP's emphasis on donors' support and Pakistan's more than six decades of experience with development aid need to be questioned and debated widely. The HUD&PHED should ensure that donor money is spent

realistically and is not wasted.

Unapproved Schemes

In 2007, Nasir Jamal reported anonymous public official saying that political pressure was responsible for including unapproved schemes in the ADP. One of the aims of *Punjab Government Efficiency Improvement Program* (PGEIP) was to reduce the number of unapproved schemes in the ADP almost by half till 2010. In the ADP of 2011, the PGEIP set out to eradicate i) ongoing schemes with less than 10% of the financing plans allocation ii) new schemes fewer than 15% allocation. Overall, PGEIP was supposed to diminish 90% unapproved schemes by 31 December of every financial year. Unfortunately, these goals could not be achieved and unapproved schemes to appear in the ADP.

Block Allocations

Block Allocations in the ADP provides the Chief Minister the sole discretion to initiate any scheme in any district of his choice without established criteria for project selection. The ADP funds are being spread thinly over a large number of projects, which in turn delays the completion of projects. Hence the Block Allocations tend to have a negative effect on the development.

Trends Responsiveness of the ADP

The ADP allocations do not respond to the trends outlined in Chapter 3. None of the water schemes refer and incorporate the demographic changes/trends in the household growth, climate change and cultural trends/trends. The public private partnership schemes are few. The Members Provincial Assembly (MPAs)/Members National Assembly (MNAs) schemes are inherently unable to respond to the trends. The demographic and climate changes are significant changes leading to coherent planning and not allowing for MPA schemes.

It is important to understand MPAs/MNAs schemes and their implications. According to Jawwad Rizvi, each MPA was given Rs 40 million for development schemes. In total, the MPAs received Rs 14.8 billion from Block Allocations for various development schemes. In 2008-09, the MPAs

did not spend funds rationally and consequently the funds quickly spent on various development projects ended before the end of the fiscal year. Further, Rizvi added that the Punjab government allocated Rs 34 million for every MNA and MPA of the province while an additional grant of Rs eight million was also allocated for MPAs under which various development projects were supposed to be started.[8]

According to a newspaper report, Punjab government gave Rs 35.9 million to each MPA and Rs 22.5 million to each MNA for development schemes in their constituencies under the Punjab Development Programme.[9] District Development Committees (DDCs) approve the development budgets allocated to the MPAs and MNAs. The DDCs are not powerfull enough to amend these schemes according to the actual needs. As a result, MPAs/MNAs schemes remain unquestioned, which has implications for development.

Table 15: Scheme Wise Grants to MPAs and MNAs in Punjab, in 2010

Schemes	Grants to MPAs (in Million of Rupees)	Grants to MNAs (In Million of Rupees)
Provision of missing facilities in schools	10	10
Up gradation of schools	8	8
Water supply and sanitation	4.5	4.5
Construction of road infrastructure	5.4	-
Punjab development programme	8	-
Total	35.9	22.5

Citing a press release of Directorate of Punjab Information, a journalist reported the decision of the Punjab government to allocate Rs 34 million for an MNA and Rs 32 million for an MPA of Rawalpindi to carry out development schemes in their constituencies. The press release also

Table 16: Schemes for Each Constituency in Rawalpindi, 2011 (In Million of Rupees)

Schemes	Allocation
Building Model Schools	7.5
Provision of missing facilities in primary and elementary schools	11.5
Clean water projects	7.5

referred the government's decision to provide Rs eight million to MPAs under the Punjab Development Programme (PDP). The MPAs and MNAs could use their allocations for clean drinking water schemes including water filtration plants, up-gradation of government high schools, provision of missing facilities in primary and elementary schools, paving farm-to-market roads and elevation of government high schools to model schools having multi-purpose laboratories and other modern educational equipment.[10]

References

[1] Crown Agents, *Punjab Fiscal Study* (Surrey, 2010), 10.

[2] For more information, see the website, www.punjab-prmp.gov.pk

[3] Jalaluddin Bhatti, "Water-Less City: Rs 5b Water Supply Project Ends Up Futile," *The Express Tribune*, April 22, 2012.

[4] Jibran Ali, "Lahore Zahrila Pani Pi Raha Hey [Lahore Consumes Poisonous Water]," Hum Shehri 13 April 2012.

[5] Asian Development Bank, *Report and Recommendation of the President to the Board of Directors on a Proposed Program Cluster of Loans to the Islamic Republic of Pakistan for the Punjab Resource Management Program* (November, 2003), 39-40.

[6] Samia Waheed Altaf, *So Much Aid, So Little Development: Stories from Pakistan* (Baltimore: The Johns Hopkins University Press, 2011), 7.

[7] Ibid., 10.

[8] Jawwad Rizvi, "Punjab Uses 45.89pc ADP Funds in 9 Months," *The News*, May 19, 2009.

[9] Iqtidar Gilani, "Cash-Strapped Govt. to Give Rs 35.9m to Each MPA for Development," *The Nation*, November 4, 2010.

[10] Mudassir Raja, "New Fiscal Budget: Gearing-up for City's Development Schemes," *Express Tribune*, July 10, 2011.

Chapter 7

Implementability

The main purpose of this chapter is to seek the ways to improve the implementability of the Punjab Drinking Water Policy (PDWP) by: first, highlighting the significance of implementation, and second, determining the challenges of implementing PDWP. I contend that the policies not only need to be responsive to the trends (Outlined in Chapter 2), but also need to be implementable.

I argue that the policies which respond to the trends are more likely to be implementable than those policies which respond to existing conditions or set goals. The literature on policy failures suggests the grand policies having less implementable provisions are more likely to fail.[1]

Implementation is an essential part of the any policy constituting a distinct field in policy studies.[2] It is because policy implementation, which is often governed by politics, is different from policy formulation. In some cases, both policy formation and its implementation can be governed by the same power arrangements, however, in most of the cases policy makers and policy implementers are isolated processes. In colonial India, policymaking was divorced from the policy implementation having consequences for policy outcomes. The process of formation and then implementation of any policy in political context is being practiced in postcolonial Pakistan.

Why Study Implementation?

There are a number of important reasons for studying implementation. Firstly, policies are not implemented as envisaged. Secondly, the implementation studies have pinpointed the inconsistency between policy documents and their implementation.

While developing framework of analysis combining *E&I* and trends to analyze content of the policies, I realized that the implementability should be determined when policies are actually put into implementation. Cooper, Fusarelli, and Randell stress upon providing implementation tools for making policy effective by calling it the technical side of any policy. It is important to distinguish between capacity to make the policy and the capacity to act that policy.[3]

We know more about policy making than about policy implementation. The questions about implementability have not been expounded well in academic literature on policy. Implementation studies are considered as an independent field of scholarship in policy studies as the policies do not automatically translate themselves into action or, in other words implementation is not an inherent property of the policies. Scholars working in implementation field know that the policies are not implemented fully both in developed and developing countries. Commenting on American education policy, implementation scholar, Frances C. Fowler asserts: "Many policies—perhaps most—are never implemented. Often, a watered-down version is put into place that does not retain the intended core or spirit of the new policy."[4] Fowler's comment is highly relevant to the case of Pakistan where many academicians and activists claim policies are not implemented. Even in strong States, policies are not implemented fully, even United States find it difficult to put all their policies into practice. Hence, the lower implementation levels in a country like Pakistan are plausible. The policies and their worth are tested during their implementation but to develop implementable policies, are generally difficult.

Although policy formulation and policy implementation can be studied separately however, they are fabricated together. Studying implementation of development policies is particularly important because the policies are just pieces of papers and promises. Similarly, studying implementation without

studying the politics of policy formulation may not be beneficial.

Challenges of Implementing PDWP

None of the policies are perfect or free from faults or more directly, the policies which are put in implementation for the first time may have many unknown faults. The PDWP is being put in implementation first time and many of its faults will be known during the implementation. I have tried to identify some of these flaws and issues in the PDWP and pointed out what the notion of implementability denotes for PDWP.

Thinking about implementability of PDWP is highly important. Implementability denotes: i) whether the provisions of the policies are actable, ii) is it possible to eliminate institutional overlapping in water provision and redundant, out of operation and non-functional water supply schemes, as PDWP envisages, iii) how policy would be implemented in the absence of regulatory mechanisms, data collection systems and efficient people?

The very first issue is related with the overlapping rules and poor co-operation and co-ordination of the policy actors. The establishment of an oversight body or committee (See Table 1, Ch.3) by the PDWP to carry out various schemes has added overlapping governmental administration. The administrative and structural changes are required to make policy implementable.

Moreover, the political interference in the water schemes, climate variables, demographic pressures, lack of clarity in the ownership, large size of throw forward and the perceived superiority of engineering solutions in water and sanitation are the major barriers in the way of adequate implementation of policy. Even the funds allocated to water schemes are less likely to relapse yet they are prone to corruption and inadequate spending.

Besides it, the tensions will continue to grow between the provincial and local levels and actors representing them. The decisions for the water supply schemes would continue to involve Housing, Urban Development & Public Health Engineering Department (HUD & PHED), District Governments, Tehsil Municipal Administrations (TMAs), and Members Provincial Assembly (MPAs)/ Members National Assembly (MNA), which is a permanent source of discord. For example water supply schemes constructed by the HUD&PHED, would

hesitantly be operated and maintained by the TMAs.

Second issue is related with the usable and clear instruments which are not being provided by the PDWP for achieving its goals. Even if we take statements such as universal water metering and cost recovery as instruments of PDWP, it is pertinent to ask if it is possible to meter all connections by 2020.

Third issue is associated with finances highlighting the fact that the PDWP provides no formula or commitments for increasing financial allocations in ADPs and no provisions for how current way of implementation of water schemes will help to realize different set of goals. Contrary, there are delays, revisions, cost-overruns, budget relapses, project discontinuations, and large throw forward affecting the implementability adversely. For instance, in 2010-11, Rs 65.5 billion were cut from the Annual Development Programme (ADP).

Fourth issue is about the ways of working of officials and actors. The PDWP does not make indications whether HUD & PHED and TMAs will start working in different ways. There are no provisions for the HUD & PHED and TMA staff for re-orienting their work.

Fifth and the last issue relates to the sustainability of the policy and the ability to respond to the changed circumstances. The PDWP provides no clue how it would respond to the changing social, demographic, socio-economic and environmental situations.

Trends and Implementation

Implementability needs to be responsive to the trends outlined in Chapter 2. The ADP guidelines 2012-13 ask the makers of ADP to consider demographic dividend but there are no guidelines on how to do that.

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Chapter 8

The Way for the Future

No doubt the drinking water problems are immense. However, they can be solved provided that the water policymakers move to the right direction by making policy provisions, financial allocations, and institutional arrangements responsive to the demographic, climatic, cultural and economic trends using the equity and inclusion framework. Besides acknowledging the demographic and climate changes, the water policymakers should also associate the water policy and its implementation with the changing trends outlined in chapter 2. The considerations of *E&I* are highly important as the scarcity of drinking water requires participation of all citizens. Water scarcity and water contamination has left no choice except mobilization of government and citizens for prudent use of water.

The solutions are simple and possible. In National Geographic Channel's documentary *Collapse: How Societies Choose to Fail or Succeed* documentary, Jared Diamond says: "The good news is that all these problems that we face are problems of our making. They're not unstoppable problems...Instead we've made these messes, and so it's within our power to stop making the messes." In the same documentary, Harvard psychologist Daniel Gilbert says: "It's always the war within us, the war between our two basic natures. One the animal nature that got us here, and two, the logical nature that could possibly help us survive."[1]

The suggestions offered here have been extended from the views of the

limited number of water experts, social scientists, community activists and citizens consulted by the Punjab Urban Resource Center (PURC) in a period of six months from October 2011 to March 2012 (See Appendix II for the list of participants). Where I felt the need, I added insights to the suggestions from the published academic and professional literature on drinking water. Also I have used my own personal experience as a guide to judge various views. The suggestions presented here do not cover all aspects of Punjab Drinking Water Policy (PDWP) and by no means, they constitute final word. The central purpose of this chapter is to stimulate thinking and discussion among readers. I believe only a holistic approach constructed on a wider dialogue can lead to the reformation of PDWP and improvement of the drinking water sector in the Punjab.

The suggestions have been organized in two sub-sections: (i) general suggestions, which need to be made part of the policy regardless of the changing trends; (ii) specific suggestions, which need to be incorporated to the policy in terms of the changing trends. The concerns of *E&I* have been addressed throughout this chapter.

Addressing Root Causes of Water Problems

Public policies do not operate in isolation as they rely on other policies to achieve their goals. A small change in one part of the system may stimulate or necessitate change in other components of the other related policies and institutions. Sociological thinking can help understand that a change in one part of the social system may require change in other parts of the system. In case, a system does not have the capacity to adapt the changes, the system will be in disequilibrium. Policies also follow the same logic. Environment cannot be improved without involving at least 15 ministries of the government of the Punjab. If government wants to make pollution a crime, it needs to change policies of policing, prosecution, judiciary, environment and transportation, traffic, industry, solid waste and all other aspects of social life which contribute to pollution.

The drinking water policy has paid little attention to bring change in the associated policy areas. The vision of Punjab Local Government Ordinance (PLGO), 2001 of eliminating overlapping functions between provincial and local governments could not be realized. In addition, over lapses between

various policy provisions also compound the problems of water sector. Provincial centralization is as harmful as federal centralization. We often think about policy changes but hardly think anything about associative policy changes. Water policy requires significant changes in HUD&PHED, Punjab Local Government Ordinance, WASAs, testing laboratories, judiciary, environment courts and local government department. Without introducing required changes in those policy areas, it is difficult to materialize the reforms.

To start with, adequate infrastructure is highly important. Unfortunately, most of the sanitation infrastructure has decayed. The rusted pipelines do not only leak the water but also contaminate it. Therefore, they need to be replaced at the secondary, tertiary and household levels. In 2002, Managing Director, WASA, Gujranwala initiated a campaign to mobilize households to replace their rusted supply lines and with his extensive efforts, he mobilized many households to do so. All water agencies need to adopt such practices in order to incorporate them in PDWP.

Sanitation is important, in fact, in some cases, it is more important than water supply. The returns of sanitation are higher than those of water supply. In Pakistan, health budgets are being spent on waterborne diseases, overwhelmingly. Water can be made safe if the sewerage is well functioning and water is not thrown into drains without treatment. By doing this, we can have even effective water supply system.

The participants of the two consultations held by the PURC asserted the need to undertake wider consultations with the people. Some of the consultation participants demanded equitable resource allocation for water sector. Most of them stressed upon the serious need to raise awareness among the public on water scarcity issues. A couple of them complained about the allegedly poor working of the water filters installed by the government. The participants from religious minorities urged that the excluded groups such as Hindus and Christians should be provided with drinking water on priority basis. They suggested making clear provisions for water filters in the PDWP. In general, the participants defied the HUD&PHED to undertake public consultations about the content of the policy.

Effective Use of Allocations and Resources

In summer 2011, I conducted budget advocacy trainings of the middle

managers of sixty Non-Governmental Organizations (NGOs) office cities: Lahore, Faisalabad, Peshawar, Karachi, and Hyderabad. I surprisingly discovered that almost all the participants said they could do nothing for development without substantial amounts of money. Most of my trainees demanded allocating 10% of the Gross Domestic Product (GDP) to the social sector. In winter 2011, I interviewed 20 government officials of Tehsil and District Governments in Lahore, Gujranwala, Multan, and Lodhran about development budget. Majority of the officers denied the possibilities of development without increasing the development budgets. Based on what I learned as a trainer and as a researcher I concluded that an idea dominates development thinking. I call this idea, "we need more money," which is perturbing and needs to be challenged. The more I talked to my trainees and interviewees, the more I became convinced that government needs to rely on its own funds for development and it needs to spend available monies prudently. The general principle of undertaking development with government's own resources can be applied to water sector, too. In 2003, I read a book, *Asian Water Supplies: Reaching the Urban Poor*, which has busted the myth that water infrastructure needed donor funding. The experience of many Asian countries has been cited in the book. Its author says that the urban water supplies can be sustained on the public revenues.[2] The argument of this book is really convincing. Following the experience of the Asian countries as cited in this book, the PDWP should envision ways to solve water sector problems with government's resources whereas its current position to seek more resources from the donors will not be very helpful to exterminate the problems.

The way water schemes are designed for the ADP currently, have many problems. Improvements in formulating and implementing Annual Development Programme (ADP) will contribute to resolve these problems. *Punjab Resource Management Program* (PRMP) and *Punjab Government Efficiency Improvement Program* (PGEIP) proposed reforms in the formulation of ADP. In 2005, World Bank said "the inclusion of un-approved schemes in ADP results in under spending of development budget."[3] The Bank also noted: "At the same time the Planning and Development Department is trying to decrease the number of unapproved schemes in the ADP."[4] Sadly, the progress on eliminating unapproved schemes in the ADP is not very

encourging in 2012.

Reducing Losses

Misuse of water is the leading cause of water losses. In February 2012, I interviewed 30 people from various informal settlements of Multan. They complained that Water and Sanitation Agency (WASA) Multan was not providing water to Katchi Abadis but the residents of Gulgashat Colony used to wash their cars with piped water. In Lodhran and Khanpur cities, the sweet drinking water was being used for sprinkling on the roads and playgrounds. The reduction of water losses can solve many problems being faced by the water sector in Punjab. Therefore, all agencies related to water supply—the Housing, Urban Development & Public Health Engineering Department (HUD&PHED), the WASAs, the Tehsil Municipal Administrations (TMAs)—should be entertained with clear policy provisions to reduce, if not eliminate, water losses.

Eliminating illegal water connections is also an important means of minimizing losses. In most of the towns in South Punjab, the TMAs do not have documentation of the water supply connections which paves the way to theft. W. Winarni's observation about the water losses in developing countries is relevant for PDWP. He observed that the illegal water connections, faulty meters, faulty metering practices, inadequate tariffs and absence of water meters constitute leading sources of water losses in the developing countries.[5] Same is the case with Pakistani cities. In an interview in July 2011, Managing Director of WASA Gujranwala, told me that the most of the illegal water connections in Gujranwala were installed by the rich people of the city. A 2011 research carried out in Johar Town, Lahore by PURC's sociologists Tehreem Fatima and Ayesha Maliha, revealed that the water meters were not functional and WASA's meter readers were unhappy with the meter readings and with charging flat rates to the consumers. Considering the water scarcity in the country, the PDWP needs to calculate and then eliminate water losses across the cities.

Losses can be reduced by improving the capacity of the water supply agencies to recover costs. The water supply agencies in Punjab are unable to recover costs. They even can't recover highly subsidized flat rate bills from the consumers. In 2011, the Managing Director, WASA, Rawalpindi lamented

that 40,000 of his Agency's 91,000 customers were not paying the tariffs.[6] In 2002-03, while working with Asian Development Bank's Southern Punjab Basic Urban Services Project, I found 21 cities in Southern Punjab had no records of household water connections. Few decades ago, WASA Lahore was the only water supply agency which used to recover costs but now it is also unable to recover them.

In my view, the basic things such as developing systems of maintaining records of water connections and revenue collection will be first important step in recovering costs. Ammar Malik, Ansa Shafi and Madiha Mughal, the three Geographic Information System (GIS) specialists at Muawin claim that GIS can be effectively used for making effective revenue collection system of water supply agencies. The water supplies agencies need to harness the potential of GIS and organizations such as Muawin, which provide low-cost solutions to the critical development problems.

To minimize losses, it is also highly important that the tariffs are rationalized. All water supply agencies levy highly subsidized tariffs, which is one of the reasons of their being in losses.[7] The increase in cost may not reduce consumption; it will improve the financial situation of water supply agencies.[8] However, any proposal for little increase in water tariffs becomes politically controversial. The political row over increasing tariffs of WASA Rawalpindi illustrates this point. In 2011, WASA Rawalpindi proposed nominal increase in water tariffs. The three months tariff for consumers living in five marla households was proposed to increase from Rs 98 to 108.[9] PML-N MNA Hanif Abbasi supported this proposal while his party fellow Shakil Abbasi opposed it. First, the raise was cancelled.[10] The Chief Minister Punjab did not favor tariff increase and, therefore, proposal was abandoned.[11] Later, Abbasi opposed raising commercial tariff rate.[12] WASA Rawalpindi had already cancelled a proposal of raising tariff in 2009.[13] Raising commercial rates is even a bigger problem as traders, hoteliers and businesses can often influence government agencies in their favor.[14] In the age of water scarcity, it is unfair to provide water on flat rates. It is also unfair to provide subsidies which favor rich people. In order to improve water supplies sustainably, all the agencies involved in water supply in the province need to rationalize water tariffs.

Private Sector and its Alternatives

The PDWP does not provide provision for setting up the social companies which deliver water on economical rates. Water filtration plants business is another area which has grown tremendously in Punjab but finds no mention in the PDWP. The newspapers are full of advertisements of various private companies selling water filtration plants. Clearly, water filters are the option for all those households who care about water—clean and safe and who can afford installing a filter. Besides, the private water supply companies are promoting bottled water as panacea for drinking water troubles in Punjab. The quality and prices of bottled water are seriously questionable, however. In May 2010, Pakistan Council of Research in Water Resources (PCRWR) tested 63 brands of bottled water. It found 33 brands unsafe for human consumption.[15] The social companies for providing water and water filtration plants offer a good alternative to the private sector provision. The private water supply companies should be charged for the water they extract. The social companies, on the other hand, should be subsidized. Overall, private sector water supplies be regulated.

Implications of Trends: Demographic, Climate, Privatization, Cultural

Policy oriented research is urgently needed for understanding the implications, incorporation and integration of trends: demographic, climate, privatization and cultural, across the public sector.

Some demographic trends are highly sensitive to the drinking water sector. The household size is decreasing whereas the household number is growing. According to 2012 statistics published in *The Nation*, the number of households has tremendously increased in Pakistan. According to a statistical study conducted in 40 countries, the cumulative growth of the households is greater than the cumulative growth of the population. This increase in number of the household requires new water supply connections; consequently, consumption and wastage of more water would be exercised. The rural to urban migration is another major demographic trend, which will contribute to make rural water supplies expensive. Moreover, the provision of water will also have implications for social trends such as demand for education. Proper water supplies keep children in schools by freeing them of the burden of

fetching water.

Some climate change trends are highly sensitive to water supplies having following implications for PDWP. Rainfall, temperature, global warming, climate variability would stimulate epidemics and competition for water.

The number of private companies is increasing, making water an economic commodity being sold and bought. It exposes the fact that society has accepted the principle— who can afford must buy water.

The values of preserving water and respecting it as a resource and preventing pollution and contamination have become extinct. Acceptance for bottled water is increasing. Wasting water is not being considered abominable. Consuming tap water is becoming unfashionable largely due to the contamination of water. All such practices exhibit a reality: *the ethics of water has been changed.*

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Epilogue

Chapter 9

Why Should PDWP Care for Ethics?

Water, the indispensible part of the universe, has been philosophers' fascination since centuries. For instance, some 2,500 ago, the Chinese mystic Lao Tzu wrote Tao Te Ching, in which he considered water so important that he stressed to be like water as living life like water was a way to peace and harmony. He said: "The highest good is like water; Water gives life to the ten thousand things and does not strive; it flows in places men reject and so is like the Tao." He also said, "Under heaven nothing in more soft and yielding than water; Yet for attacking the solid and strong, nothing is better; it has no equal." In large part, the words of Lao Tzu narrate ethics of living.

All cultures have ethical codes and their study and practice does not solely lie in the purview of ethicists, moral philosophers and religious preachers of all persuasions. Max Weber in his authoritative work *Protestant Ethics and the Spirit of Capitalism* showed how protestant ethics of work, personal discipline, responsibility and rationality helped capitalism to grow. In the context of water, we can also study water related ethics: ethics which make people preserve water, use it responsibly, and prevent it from contamination.

Ethical Actions, Water Ethics

Can we live life following the utilitarian or rational calculations of gains

and losses? Can we bypass ethics in everyday lives? Both questions can be answered affirmatively. The gains and losses and their calculations are important—indeed, very important as they guide human actions in important ways. However, both the rational and the utilitarian models of human ethics are insufficient mainly because they place more emphasis on *maximizing* gains. Though competition based social organization has stimulated development, innovation and progress in human societies, particularly in the Western societies, however, competition has reached its limits. Competition increases individual consumption and the struggles to consume more than others jeopardize the collective survival.

In Fog of War documentary, Robert S. McNamara said: "rationality will not save us." In *Collapse: How Societies Choose to Fail or Succeed,* Harvard Psychologist, Daniel Gilbert declares that world's problems among human beings stem from struggles to gain more than others. In the same documentary, Jared Diamond, announces that hundreds and millions farmers need to practice water conservation strategies to save the world.[1] The message of the documentary was to promote cooperation among people more than competition, which, to me, is a powerful ethical strand. In a way, the documentary called for ethical action. But what constitutes ethical action? Of course, the definition of ethical action varies from time to time. Our actions are ethical, if we perform them more for social sake and less for personal benefit. We should explore whether water ethics are possible? To me, the answer is yes. In the last few decades, there is resurgence in literature on environmental ethics, including water ethics. If we agree that water is not merely a resource but a living being, as respectful as other living beings, the likelihood of reviving and developing water-centered ethics increases manifold.

Did Water Ethics Decline?

Yes they have declined. In Indus Valley and Harappan civilizations, polluting water was considered a sinful thing and this ethics remained intact to various degrees until the mid-twentieth century. In the history of Punjab, a number of values and folk wisdom attached a great significance to the drinking water. As time passed, hand pumps replaced wells, and motors replaced hand pumps and in recent times, one hardly

comes across the well. Hand pumps are in place only where people can't afford electric motors. In the past few decades, everything has changed: polluting and wasting water are no more sinful activities. Recently, water is no more a collective good and a collective responsibility which indicates that water ethics has regressed.

Ethics and Public Policy

Are the ethics relevant to the public policy? Indeed, they are highly relevant. Ethical considerations underpin important questions related to water and water policy. The water and water policy are beset with a range of ethical dilemmas. Is turning drinking water into a commodity okay? Should wealthy people be allowed to use as much sweet water as they can pay for? Should we wash our bodies, cars, homes with sweet water? Should all restaurants in the city be allowed to serve their customers with priced bottled water? Should we not worry about water deprived communities if we can buy bottled water ourselves? The concerns of *E&I* are largely ethical.

Avoiding Moralizing

By centralizing ethicality, I do not deny the significance of removing structural inequality. An ethical foundation is needed for removing structural problems, too. Without ethics, the large scale changes such as revolutions, act against the very dreams which are set out to achieve. I am also aware of the fact that the ethical principles relate to the power relations in the society too. We lament the death of a celebrity and not of the beggars exposing the reality that *power* shapes our *compassions*. Moreover, I am also aware of the dangers inherent in moralizing the social issues. Inequality in access to water is largely structural but it has ethical dimension too. I stress that ethical and structural issues of justice should go hand in hand without moralizing.

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Chapter 10

Is Educating on Water Possible?

In broader sense, all public policies are pedagogical: either, they educate citizens in the new ways of thinking and acting or they reinforce their older ways of thinking and practices. Since policies require citizens to learn thinking or acting in particular ways, they play educative roles. Schools educate students through teachers, books, education ritual, homework, assignments. Likewise, governments educate citizens, among other things, through the way they deal with the citizens. The interaction of the citizens with police, for example, educates people about the policing possibilities of a state. But the citizens also interact with the services of the state, in addition to their interactions with the state officials. The ways the citizens experience a particular service such as water and sanitation, are educative. No matter what books contain, the citizens also receive education from their experiences of the state and its services. Owing to their educative aspects, public policies need to be practiced in the ways the people do not find difficult to work with. If the policies educate the people they are made for, the likelihood of educating people in public policies may be efficient. Considering the low levels of education in Punjab, public policies should educate people through non-literary means i.e. through demonstration.

The educative role of public policies in this broader view does not occupy this section. The reason is that the state institutions may not have

the traditions and tendencies for educating citizens while performing their everyday business. Besides it, the idea is abstract and subtle and state institutions might find it difficult to handle its subtleties. The other option is educating citizens about the policy—specifically, about the intents of policy because it is easy to educate the people the intents of the policy than the contents of the policy. The intents of the policies i.e. equality, equal opportunity and justice—are stable. Since the contents may change faster than the intents, hence the assimilation of intents in both the formal and the informal education would be more advantageous. The schools, however, are appropriate sites for educating people about policy.

Water Education

A number of works accentuates the fact that incorporating the environmental issues in the curriculum and textbooks is possible and desirable. Joy A. Palmer's *Environmental Education in the 21st Century: Theory, Practice, Progress and Promise* (New York: Routledge, 1998); Dirk Willem Postma's *Why Care for Nature? In Search of an Ethical Framework for Environmental Responsibility and Education* (Springer, 2006); and Clare Palmer's *Teaching Environmental Ethics* (Leiden: Brill, 2006); Estelle L. Weber's edited volume *Environmental Ethics, Sustainability and Education* (Oxford: Inter-Disciplinary Press, 2009) emphasize the same fact.

Joy A. Palmer contends that history of environmental education can be traced to the ideas of Goethe, Rousseau, Humboldt, Haeckel, Froebel, Dewey and Montessori.[1] Palmer provides detailed information on the designs and contents of environmental education program for various grades. Postma provides a sketch of natural education helping children to reflect on the nature in a natural environment and this process increases children's association with nature.[2] Palmer's edited volume has explored a range of issues from environmental advocacy to teaching ethics to the non-specialists.[3] Weber explores a range of possibilities from incorporating peoples' perceptions in environment planning to developing consensus among environmentally threatened communities.[4] Together these authors offer insights, practices and solutions which can help educators to include water themes in education.

Water, Curriculum, Textbooks

Historically, environmental education has long been ignored in Pakistan despite the numerous environmental problems—which are of crisis proportion, particularly the issues related drinking water. In the face of this negligence, a little effort has been made for including environment in the education. The National Education Policy (NEP), 2009 provides: "Environmental education shall be made an integral part of education."[5] Even little, this provision should be welcomed. But since this declaration, pragmatically, very little has been done to make environment a part of the education. Though the provinces are less likely to give environment an important place in education, the NEP, 2009 has created a hope for change.

Textbooks for Future

Building on the NEP's environmental education provision, the issues of the drinking water and the intents of the Punjab Drinking Water Policy (PDWP) can be made part of the school curriculum and textbooks in Punjab. The textbooks can effectively be used to instill water ethics among the students and the intents should primarily be included in social studies and science textbooks. A number of countries—developed and developing—have integrated environment and drinking water themes in their education. Instead of learning from the experiences of other countries, consideration should be given to the practice of water ethics prevailing in Punjab in history.

Teaching Ethics

Is it possible to teach ethics? Yes. All civilizations have developed and taught ethics corresponding to their social and political situations. However, some ethics contributed more than the others in supporting human survival. With the passage of time, some ethics have become irrelevant whereas some ethics have regained relevance, indeed, more than before. Estelle L. Weber's edited volume *Environmental Ethics, Sustainability and Education* (Oxford: Inter-Disciplinary Press, 2009) offers a range of ways to teach ethics. The book covers a range of topics in environmental education. It suggests making environment and

environmental ethics part of the education to deal with the environmental problems facing today's world. Taking clue from this book, I suggest the policymakers in Punjab should learn from the environmental education experiences of other countries to start environmental education in the provincial schools.

The Way Forward

Towards the end of his age, Akhtar Hameed Khan—the man who combined literature, sociology, philosophy and mysticism—in his Orangi Pilot Project of 1980s and 1990s, said: Pakistan's problems were not economic but moral. Both hopeful and disappointed, Dr. Khan saw that his society was deeply falling into moral erosion. He would ask: "Why did Buddha give up his princehood to become a wandering mendicant?" due to the reason – the way to discover the meaning of life is through controlling ones instincts. Same is the message of Sufi poets like Jalaluddin Rumi i.e. "what are thet hree things we must control? Greed, hatred and delusion."[6] The decline of water sensitive ethics, we charted out, can be explained using Dr. Khan's reflections: A society can find ethics in its history, religion, politics or culture by readying to reflect on its present and past without being tempted by greed, hatred and delusion.

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Appendices

Appendix I

GOVERNMENT OF THE PUNJAB
HUD & PHE DEPARTMENT
Dated Lahore, the 11th June, 2011

NOTIFICATION

No. SO(PH)-IV-365/2009. In order to ensure provision of safe drinking water for the entire population of the province, the Government of Punjab has approved the **"Punjab Drinking Water Policy"** which will provide a framework for addressing the institutional, administrative, legal, regulatory, fiscal, social & environmental issues and challenges for achieving the following policy objectives:

i. Improving the standards of the public health through provision of improved services, backed up by a legal, regulatory and binding framework.
ii. Laying down a roadmap for mobilization of the resources required to ensure provision of drinking water to all by the target timeline, assigning a priority to un-served and under-served areas of Punjab.
iii. Focusing on the capacity building of local governments and Private-Public Partnership to improve the operation and maintenance of water supply schemes.
iv. Create awareness for improved water supply through a communication campaign, which takes cognizance of conservation, demand management and contamination issues.
v. Facilitating the introduction and institutionalization of an effective Monitoring and Evaluation system, which include performance benchmarking in service delivery.
vi. Ensure protection and conservation of water resources.
vii. Development of sector strategies, both for urban and rural water sector, to translate policy principles into action.

3. In order to review progress towards the achievement of afore-mentioned policy objectives, assess the need for policy changes, recommend remedial steps and suggest improvements / changes in the policy, the Chief Minister, Punjab is pleased to constitute the following **"Implementation Committee"**:

1.	Minister, P&D Department.	**(In Chair)**
2.	Mr. Sher Ali Khan, MPA Attock. (Barani Zone)	**Member**
3.	Mian Muhammad Kazim Ali Pirzada, MPA Bahawalpur. (Brackish Zone)	**Member**

4.	Mr. Saeed Akbar Khan Newani, MPA Bhakkar. (Sweet Zone)	**Member**
5.	Mian Tariq Mehmood, MPA Gujrat. (Brackish/ Barani Zone)	**Member**
6.	Chairman, P&D Board.	**Member**
7.	Secretary, LG&CD Department.	**Member**
8.	Secretary, Irrigation & Power Department.	**Member**
9.	Secretary, Environmental Protection Department.	**Member**
10.	Project Director, Urban Unit, P&D Department.	**Member**
11.	Representative of private sector / civil society.	**Member**
12.	Secretary, HUD & PHE Department.	**Member** / Secretary of the Committee

(**Note**: "Implementation Committee" may co-opt other member(s) as deemed appropriate and may nominate representative of private sector/civil society as member of the Committee).

4. The committee shall, once in a year, present to the Chief Minister Punjab a comprehensive report on the progress of policy objectives.

BY ORDER OF THE CHIEF MINISTER, PUNJAB

SECRETARY
HUD & PHE DEPARTMENT

No. & Date Even:

A copy is forwarded for information and necessary action to:-

1. All Members of the Committee.
2. PS to Secretary to the Chief Minister, Punjab.
3. PS to Chief Secretary, Government of the Punjab.
4. The Chief Engineer (North/South), PHE Department, Lahore.
5. All Director Generals of Development Authorities.
6. All Managing Directors of WASAs.
7. PS to the Secretary, HUD & PHE Department.

O/C

Deputy Secretary (Tech;)
PH.# (042-99212630)

Appendix II

People Consulted

• Ammar Ahmad, Manager, Muawin, Lahore
• Ansa Shafi, Associate, Muawin, Lahore
• Arif Hasan, Chairman, Urban Resource Center, Karachi
• Atif Hasan, President, Muawin, Lahore
• Ayesha Maliha, Student, Institute of Social and Cultural Studies, Punjab University, Lahore
• Farah Hameed, Student, Institute of Social and Cultural Studies, Punjab University, Lahore
• Hafiz Rashid Mehmood, Director (Monitoring), Directorate General, Katchi Abadis & Urban Improvement, Punjab, Lahore
• Jamshed Ali, Student, Institute of Social and Cultural Studies, Punjab University, Lahore
• Khadija Aftab, Student, Institute of Social and Cultural Studies, Punjab University, Lahore
• Khalid Warriah, Director, HAMET, Bahawalpur
• Kiran Farhan, Dr., Urban Unit, Lahore
• Kunimasa Nishigaya, Japan International Cooperation Agency Cell in WASA, Lahore
• Madiha Mughal, Associate, Muawin, Lahore
• Muahammad Ali Sarwar, Geographic Information System Specialist, Punjab University, Lahore
• Muhammad Javed Iqbal Awan, Secretary, Government of Pakistan, Islamabad
• Muhammad Qadir, Director, Water and Sanitation Agency, Lahore
• Reza Ali, President, Punjab Urban Resource Center, Lahore
• Reza Baqri, Tehsil Municipal Officer, Muzzafargarh
• Saeed Shafqat, Director, Center for Public Policy and Governance, Forman Christian College University, Lahore
• Salman Yusuf, Deputy Secretary (Technical), Housing, Urban Development, & Public Health Engineering Department (HUD & PHED)
• Sohail Nazir, WaterAid, Islamabad, Pakistan
• Sato Yarai, Japan International Cooperation Agency Cell in WASA, Lahore

• Shazia Khan, Youth Commission for Human Rights, Lahore
• Tariq Latif, Director, Muawin, Lahore
• Tasleem Mushtaq, Student, Institute of Social and Cultural Studies, Punjab University, Lahore
• Tasneem Ahmad Siddiqui, Chairman Saiban, Karachi
• Tehreem Fatima, Student, Institute of Social and Cultural Studies, Punjab University, Lahore
• Urooj Khaliq, Coordinator, Social Mobilization, Muawin, Lahore

Note: This list is not inclusive. Some interviewees expressed reservation on publishing their names. Respecting their right of privacy, we are not publishing their names.