“Assessment of drinking water equity in public service provision”

Case study of WASA Lahore

By

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Thesis submitted to the Lahore School of Economics
In partial fulfillment of the requirements for the degree of
M. Phil in Development Studies

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Abstract

Water is an essential and dynamic resource. When it comes to equitable provision of safe drinking water, governments must protect individuals' right to such water through implementable legal mechanisms and legal protection.

Lahore is the second largest urban as well as commercial city of Pakistan with a continuously expanding population, estimated at just over 11 million in the 2017 Population Census. However, not all of its inhabitants have access to safe drinking water; which is a basic human necessity. This study seeks to explore if inequalities that exist in access to safe water for drinking are the result of socio-economic differences in factors such as income level and residentital area. Inequalities based on such parameters constitute water inequity.

Study is divided into two parts. The first part analyzes availability and usage of all sources of water (WASA piped water; WASA filtration plants; Bore-hole/hand pump; Bottled water) by sample households and its relationship with their income and location. Results of this part showed that WASA tap water availability is high in the study area with WASA piped network covering almost 97% of the area. However, households use multiple water sources, including tap water, improved water sources such as filtration plants and boreholes, and unimproved water sources such as bottled water. This shows that households do not rely solely on WASA tap water which reduces its viability as a domestic water source. In terms of drinking water consumption, households primarily use water from filtration plants for drinking. In terms of per capita drinking water consumption per day, households that fall in lower income categories and had larger household size had lowest rates of per capita drinking water consumption.

The second part of which this study primarily focuses deals with water supplied b WASA and investigates: (i) reliability and affordability of WASA water supply (ii) willingness to pay (WTP) for reliable availability, sufficient pressure, good quality; (iii) impact of WASA supplied pipe-line water on water borne diseases & working and school days as a result and resulting expenditure on medicinal services. Results of this part showed that water supplied by WASA cannot be considered fully accessible because of discontinuities and interruptions in water supply, which makes it an unreliable water source. Results showed that Model Town, which has higher income households, had the most hours of water availability in a day (10 hours), whereas Lahore City, housing majority of lowest income households only had 5 hours per day. Furthermore, water quality is also not consistent throughout the study area. Areas with lower income households get contaminated water, mainly due to old and outdated water supply infrastructure. This fact is also supported by the findings of this study which showed that majority of the respondents that reported an issue with physical water quality parameters such as foul smell or cloudy appearance belonged to lower income areas of Lahore City.

Results also indicated that there is a high recurrence of water-borne diseases in lower income areas of Lahore City. Typhoid and Diarrhea were found to be the most recurring diseases. Results showed that children afflicted with water-borne diseases missed 6 school days on an average, with the actual number reaching as high as 30 days in some cases. Results also indicated that this number was higher in lower income group as compared to high income groups. Results also showed that during last year, adults had missed 10 work days on an average, with the actual number ranging from 1 to 60.

Thus, even though water supplied by WASA is available to majority of households and it is affordable as compared to other water sources, its unreliability and inconsistencies in the volume of water being supplied, as well as its quality diminishes its viability as an accessible and safe drinking water source.

Dedication

This thesis is dedicated to my mother who is my source of encouragement and inspiration.

Acknowledgements

I would like to express my special appreciation and thanks to my research advisors Dr. Rashid Amjad, and Mr. Wasim Saleem for their tremendous support throughout this study and for constantly encouraging my research efforts. I would also like to thank Ms. Tabitha Spence, Mr Rafay Alam, and Ms. Sadia Imran, for their invaluable advice in steering and guiding me in the right direction in the course of my research and for keeping me focused on that path. I would also like to acknowledge the efforts of members at the Punjab Urban Resource Centre, for giving me access to their archives and collected data, whenever it was required. Special thanks is extended to Mr Javed Sadiq Malik at GIDS and Ms Sadaf Ambreen , their efforts towards making this whole research process an easier one are highly appreciated.

Words cannot express how grateful I am to my family, for all of the sacrifices that they have made on my behalf and for their never-ending support and love.