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WATERLOO



Policy Workshop

Water Pollution Management: Stakeholder Perceptions to Inform Policy Action

January 7, 2020

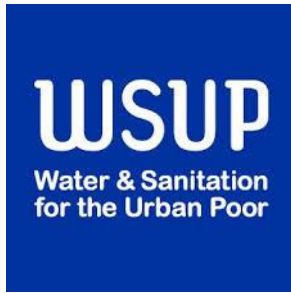
Pan Pacific Sonargaon Hotel, Dhaka





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Program

08:30 – 09:30 Workshop registration and tea/coffee

PART I Chair: Prof. Mizan Khan, Deputy Director ICCCAD

09:30 – 09:35 Welcome and workshop opening by Prof. Mizan Khan, Deputy Director ICCCAD

09:35 – 09:45 Presentation of the workshop objectives by Prof. Roy Brouwer, Water Institute Director, UW

09:45 – 09:50 Word of welcome by Mr. A. Shaheen, Country Program Director WSUP

09:50 – 09:55 Word of welcome by Mrs. Hasin Jahan, Country Director WaterAid Bangladesh

09:55 – 10:05 Introduction by Honorary Guest Dr. A.K.M. Rafique Ahammed, Director General DoE

10:05 – 10:15 Introduction by Special Guest Mr. Kabir Bin Anwar, Honorable Secretary MoWR

10:15 – 10:25 Introduction by Chief Guest Mr. Abdullah Al Mohsin Chowdhury, Honorable Secretary MoEFCC

10:25 – 11:00 Facilitated discussion of water challenges and solutions by Prof. Mizan Khan

11:00 – 11:30 Tea break

PART II Chair: Prof. Mizan Khan, Deputy Director ICCCAD

11:30 – 11:40 Introduction of study objectives by Prof. Roy Brouwer, Director of the Water Institute, UW

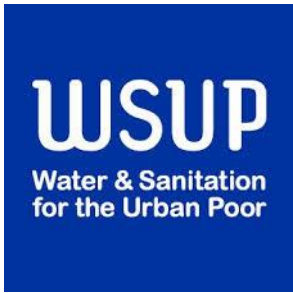
11:40 – 12:00 Presentation of the main study results – A policy maker perspective by Prof. Susan Elliott, UW

12:00 – 12:20 Presentation of the main study results – An industry perspective by Prof. Jennifer Liu, UW

12:20 – 12:40 Presentation of the main study results – A public perspective by Prof. Roy Brouwer, UW

12:40 – 13:00 Facilitated discussion of policy recommendations by Prof. Mizan Khan, Deputy Director ICCCAD

13:00 – 15:00 Lunch



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Summary

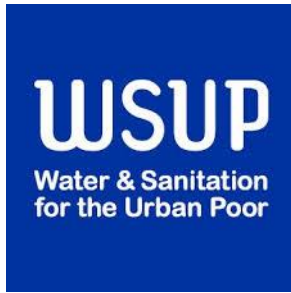


Water Institute » News » 2020 » January »

Investigation into perceptions of urban water pollution management led by the Water Institute presented at Dhaka, Bangladesh workshop

MONDAY, JANUARY 13, 2020





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The results of a Water Institute led investigation into stakeholder perceptions of and attitudes towards more sustainable water pollution management in the mega-city Dhaka in Bangladesh were presented in a water policy workshop in the Pan Pacific Sonargaon Hotel in Dhaka on January 7. Water Institute members Derek Armitage (School of Environmental Resources and Sustainability), Susan Elliott (Geography and Environmental Management), Jennifer Liu (Anthropology), Roy Brouwer (Economics) and University of Waterloo graduate students Dilruba Sharmin and Danielle Lindamood advised the UK-based non-governmental organization Water and Sanitation for the Urban Poor (WSUP), who funded the research, about their key findings.

The research was carried out over a period of one and a half years in Dhaka in collaboration with local partners including WSUP Bangladesh, the International Center for Climate Change and Adaptation (ICCCAD) and Water Aid Bangladesh. Dhaka is a city with more than 20 million inhabitants facing rapid population and economic growth along and amongst heavily polluted rivers, streams, lakes and canals.

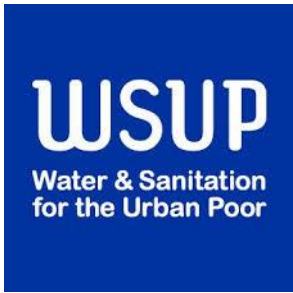
The workshop was opened by the Secretary of the Ministry of Environment, Forest and Climate Change (MoEFCC) and the Director General of the Department of Environment (DoE), and attended by high-level representatives from various governmental, non-governmental and academic research organizations in Bangladesh, such as the Dhaka Water Supply and Sewerage Authority (DWASA), the Water Resources Planning Organization (WARPO), the Bangladesh University of Engineering and Technology (BUET), and the International Center for Diarrheal Disease Research in Bangladesh (ICDDRDB).

Water Institute Director Roy Brouwer introduced the objectives of the policy workshop and presented the main policy recommendations stemming from the research. These recommendations were summarized in a policy brief and an infographic developed by the Water Institute communications and knowledge mobilization officers Harriet Bigas and Julie Grant, and distributed to the approximately 45 participants at the workshop.

Susan Elliott then presented the results from 25 in-depth interviews with high-level policymakers and other stakeholders, highlighting some of the challenges various authorities at different levels of governance face in managing freshwater water pollution, in particular the implementation of existing rules and regulations and monitoring of the associated impacts.

Jennifer Liu presented the main findings from 21 in-depth interviews with different industry representatives, in particular the washing, dyeing and pharmaceutical industries and the many tanneries found in and around Dhaka city. The inclusion of industry perspectives in the investigation was considered new and innovative with respect to understanding perceptions of fresh water pollution management in the city.

Roy Brouwer closed the technical session presentations, highlighting the key results from a large-scale survey among 2000 households in Dhaka city, zooming in on the relationship between water quality, public health, and the costs of illness.



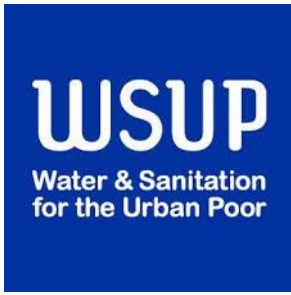
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A lively discussion followed the presentations that continued over lunch. The next steps following the workshop include the writing of a short technical report synthesizing the main findings in more detail, taking into account the feedback the researchers received during the workshop, and publishing the results in the coming months in scientific journals as well as preliminary plans to present the work, in partnership with WSUP, at World Water Week in Stockholm (August 2020).



(L) Susan Elliott (R) Jennifer Liu presenting at the Policy Workshop in Dhaka, Bangladesh.



Presentations

1. Introduction Workshop Objectives – R. Brouwer



Workshop organization

Workshop organized jointly by

- WSUP, Bangladesh
- WaterAid Bangladesh
- ICCCAD, Bangladesh
- The Water Institute, University of Waterloo, Canada



Workshop objectives

- Share main findings WSUP funded research in Dhaka in 2019
- Feedback from interested stakeholders in water pollution management

Original Research Question

What are citizen and decision-maker attitudes to freshwater pollution in Dhaka?

We are interested to hear your thoughts:

- 1) *What are in your view the main water challenges in Dhaka?*
- 2) *What are in your view important steps forwards?*

Workshop target groups

- Stakeholders in water pollution management
 - Government
 - Non-government
 - Industry
 - Academic research

 WSUPWater & Sanitation
for the Urban Poor

REACH

Improving water security for the poor

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Workshop participants

- **Government**
 - MoWR
 - MoEFCC
 - MoI
 - MoLGRDC
 - DoE
 - WARPO
 - BWDB
 - DWASA
 - DNCC
- **Non-government**
 - WSUP
 - WaterAid
- **Industry**
 - Textile
 - Dyeing
- **Research**
 - ICCCAD
 - BUET
 - CEGIS
 - C3ER
 - icddr

 WSUPWater & Sanitation
for the Urban Poor

The research team

- Prof. Roy Brouwer, UW
- Prof. Susan Elliott, UW
- Prof. Jennifer Liu, UW
- Prof. Derek Armitage, UW
- Ms. Sharmin Dilruba, UW
- Ms. Danielle Lindamood, UW
- Prof. Mizan Khan, ICCCAD

Local support team

- Dr. Farzana Begum, WSUP Bangladesh
- Interviewers:
 - Ms. Benazir Jahangir
 - Dr. Shuhaida Samia
 - Mr. Zubayer Ibn Zaman
 - Dr. Shuvojyoti Samadder
 - Dr. Enayet Ullah Soad

 WSUPWater & Sanitation
for the Urban Poor

Important note

- We as a research team only report back today what we found in the research
- Disclaimer:
 - 1) We are not experts in water pollution management in Dhaka (you are)
 - 2) We will not present any ready-made solutions
- We synthesize and share our main findings in the hope to contribute to a constructive discussion about future water pollution management in Dhaka

Policy recommendations



Policy recommendations

- Adopt a **collaborative** management **approach** embracing **more effective** modes of **interaction amongst** different **stakeholders**, with **clearly defined roles** and responsibilities and a dedicated **coordinating mechanism**
- Establish **streamlined procedures** for the **implementation, monitoring** and **enforcement** of **policies** and **regulations** of industrial water pollution
- **Invest** in **wastewater infrastructure** and capacity in order to ensure better wastewater management and treatment
- Work with **international buyers** to ensure the adoption of **global standards** and **best practices** for wastewater treatment
- **Raise awareness**, build a sense of **collective responsibility**, and ensure **strong political will** and **leadership** about the impacts of water pollution

2. Introduction Study Objectives – R. Brouwer



Study objective

- Original research question: what are citizen and decision-maker attitudes to freshwater pollution in Dhaka?
- To answer this question, we developed different protocols to assess citizen and decision-maker perceptions of water pollution issues

Research methodology

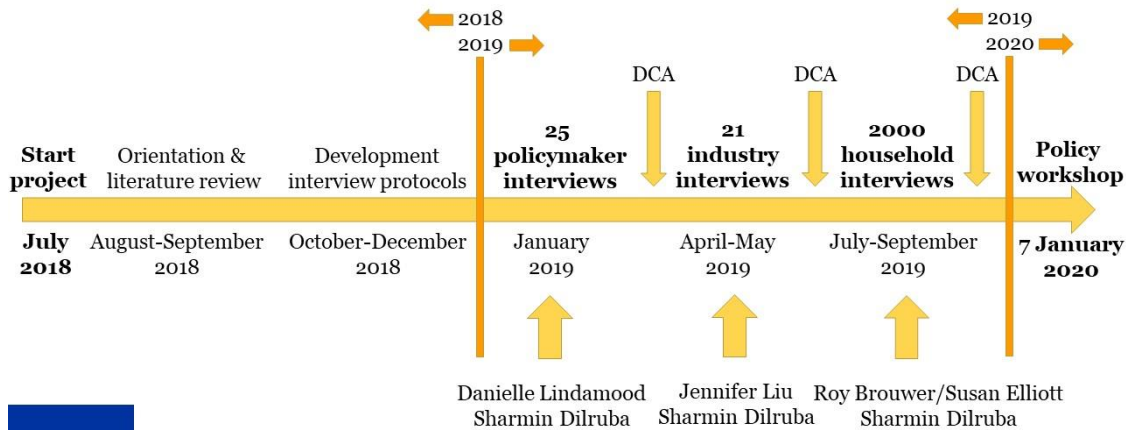
- 1) Literature review
- 2) Development of data collection protocols targeting different groups
- 3) University ethics review and approval
- 4) Data collection in 2019
- 5) Data transcription and coding
- 6) Data analysis
- 7) Write-up of results

Data collection protocols

- Each protocol addressed a specific target group
- Two *semi-structured* interview protocols targeting *policymakers* and *industry*
- One *structured* interview protocol targeting *residential households*

- What are perceptions and attitudes towards freshwater pollution in Dhaka within existing regulatory frameworks?

Timeline



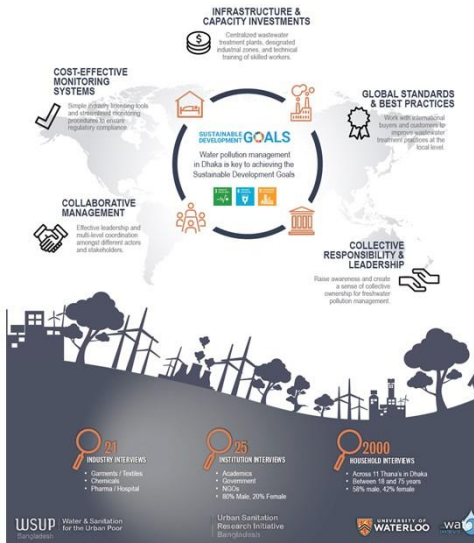
Presentations of main findings

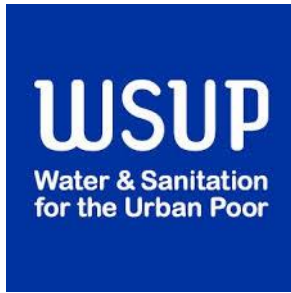
- Synthesis policymaker perspective Prof. Susan Elliott
- Synthesis industry perspective Prof. Jennifer Liu
- Synthesis household perspective Prof. Roy Brouwer

- Note: we only report back today what we found in the research to inform possible policy action

Policy recommendations

How can policy-makers address water pollution management in Dhaka?





3. Presentation main results – A policymaker perspective – S. Elliott



*“If you are not answerable to someone,
things will not change”*

Adaptation and collaboration for freshwater
pollution management in Dhaka

Susan J. Elliott, PhD
Professor of Geography
On behalf of:
Dani Lindamood & Derek Armitage

Context

- Recent years have shown impressive WaSH gains (and related health improvements)
- Significant economic development in Bangladesh along with population pressures
- Pollution of surface water in Dhaka continues
 - Industrial, manufacturing, agricultural, medical & residential sources (faecal sludge)
- Pollution may threaten WaSH progress and related impacts on health and wellbeing



Exports still in choppy waters

By Hossain Moina

Export earnings in 2019
(in billions \$)

Month	Export Earnings (in billions \$)
Jan	2.57
Feb	2.51
Mar	2.53
Apr	2.51
May	2.51
Jun	2.51
Jul	2.51
Aug	2.51
Sep	2.51
Oct	2.51
Nov	2.51
Dec	2.51

Export earnings fell 5.84 percent year-on-year to \$19.3 billion in the first six months of the fiscal year mainly because of lower shipment of apparel items.

The first two weeks of December remained negative while the second half picked up slightly. "I am strongly assessing on one point: We are losing competitiveness. And we won't be able to sustain the general expectation of riding on high tides lest we have policy support," Huiq said.

The shipment of leather and leather goods, the second highest export earner after garments, kept up a falling trend, weighed down by lower global demand and lower production at tanneries.

However, export earnings from apparel items improved a bit in December in comparison to November.

But the increase in December does not signify that the sector is turning around as such, said Rubana Haq, president of the Bangladesh Garments Manufacturers and Exporters Association.

December and January are peak months anyway and compared to that, we haven't had any significant gain," Huiq told The Daily Star in

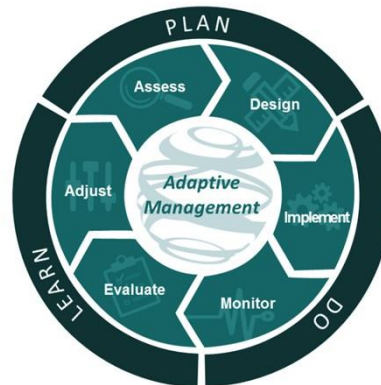
Goal and objectives

Assess the readiness of water sector actors in Dhaka to develop more collaborative & adaptive approaches to water pollution management.

1. To assess the strength of institutional arrangements and multi-level linkages for decision-making in water pollution management;
2. To examine existing collaborative processes and multi-stakeholder engagement among water sector actors; and,
3. To investigate adaptive capacity and learning processes among water pollution management actors, with attention to the implications for monitoring and evaluation in the context of change.

Conceptual framework

- Adaptive co-management:
 - “...a process by which institutional arrangements and ecological knowledge are tested and revised in a dynamic, on-going, self-organized process of learning-by-doing” (Folke et al. 2002:20)
- Highlights collaboration & adaptive capacity as key processes
- Shown to lead to enhanced management outcomes for complex social-ecological systems



What did we do?

January 2019

- Semi-structured in-depth interviews
 - 25 participants
 - Water pollution management actors (government, NGO, academia)

March – December 2019

- Verbatim transcription of interviews
- Data coding using NVIVO
- Analysis of key themes

Results I:

Institutional arrangements & multi-level linkages for decision-making

- Confusion across institutional and management
 - 18 participants (72%) stated WPM
 - Mandates, responsibilities, support actions are unclear
 - Leadership is dispersed & unclear
- Linkages (i.e. relationships, communication)
 - Key agencies in WPM do not see linkages in practice
 - Linkages often are short & project-based
- Coordination for WPM is challenging as a result and leads to implementation gaps at the ground-level

More than 10 ministries are involved in managing water pollution, but no ministries are functioning well to reduce the water pollution... Connections are still there in the paper and pen, but in the field it is very difficult to see that all ministries are agreed to reduce the water pollution.

Results II: Collaborative processes and multi-stakeholder engagement

- Relevant stakeholders are not necessarily involved in decision- and policy-making for water pollution
 - Government seen as primary policy and decisionmaker
- There is an appetite for more collaborative governance processes and greater participation in decision- and policy-making
- Challenges exist for building collaborative processes
 - Ideas of participation are institutionally new
 - Current consultation processes are not seen by most stakeholders to be sufficient
 - Gender and power dynamics influence who has a seat at the table
 - Lack of institutional clarity & strong relationships amongst WPM actors compounds these challenges

Results III: Learning processes and capacity

You see the system should work, because I am a regulator I should do my job whatever is the cost. If I see the industry is releasing fuels that do not meet the standard, then we should shut down this industry. But we cannot... Industrialists have taken over politics.

The way we are monitored by different monitoring agencies... they always want to see the success. If we tell them about the problems we are facing, they will not appreciate it... They always want to hear the good things. When we work for the government projects we always tell them the good things. What they want to see is that I have utilized the [money they gave us]. They need to see the [equivalent] output. I may [be failing, but] I can't share that.

- Where we see examples of success (i.e. Gulshan Lake, relocation of tanneries) political will is seen as paramount
- There is a sense of hope that learning & adaptation will happen under the current political leadership

Key Learnings

- Commitment from multi-level government leadership will pave the way forward under the current approach
- Institutional clarity will further support WPM outcomes
- Appetite for more collaborative processes/ approaches to WPM
 - worth the time investment
 - achievable through enhanced participation & shared decision-making
- Relationship-building and openness about the challenges and barriers to implementation is seen as both necessary and valued

Questions & Comments Welcomed

- Thank you to the participants who gave their valuable time to this research process and shared their candid views.
- Are there challenges? Yes
- Respondents appear keen, willing & able to meet those challenges

4. Presentation main results – An industry perspective – J. Liu



Objective

To explore knowledge, attitudes and practices related to fresh water pollution amongst **industry representatives**



Interviews

21 semi-structured interviews with industry owners & managers from four regions



21 Interviews - Industries

Spring 2019

▪ WASHING	6
▪ DYEING	5
▪ TANNERY	5
▪ PHARMACEUTICAL	3
▪ CHEMICAL	1
▪ HOSPITAL	1

Results

1. **The Central Role of Effluent Treatment Plants (ETPs)**
2. **Raising Awareness, Education, & Technical Capacity**
3. **Perceptions of Health & the Environment**



ETPs

Self Reported ETPs

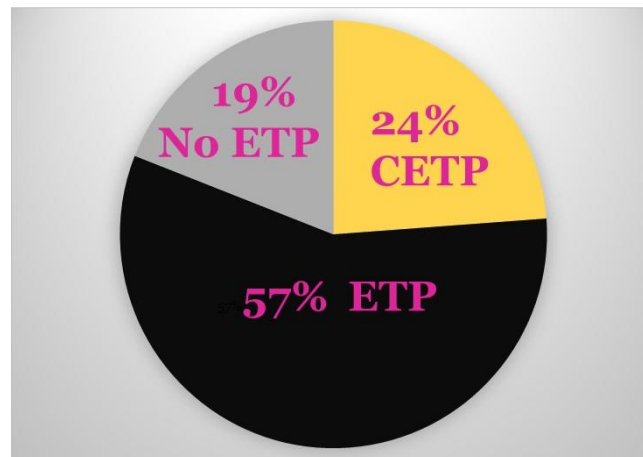
12 Have Own ETP



5 Use CETP (Savar)



4 No ETP



4 Major Obstacles to ETP Use 1

1. Lack of Available land
2. Cost: Expensive to build and operate

"Everyone says to install an ETP, but where is the space?"

"We don't have the space in our factory"

In Hazaribagh
"No one treats the waste. Because of lack of space"

Obstacles to ETP Use 2

3. Need for Collective Action
Why should I do this when others don't?
4. Administrative complexity

"There is no benefit if I construct an individual ETP. After spending a lot of money, I am going to..."

"There are lots of rules and regulations... When I go to the government, they show me the regulations and scare me... So we have to construct an unplanned building."

Incentives to ETP Use 1

- 1. Regulations
- 2. Threat of Fines or Closure
- 3. Sense of Responsibility

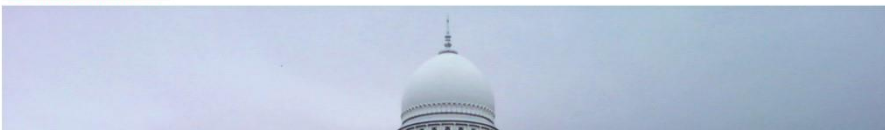
DOE fines 7 factories Tk 13.2 million
Kalerkantho Online
18 September, 2019 17:42 PM



HC directs DoE to shut down 27 factories and private hospitals on the Buriganga

Mizanur Rahman

Published at 08:54 pm November 17th, 2019



0.2 million in Narayang

Incentives for ETP Use: Buyers

International Buyers provide a powerful incentive for ETP use

Conduct Independent

Demand Sustained

Offer Higher Prices

“We will start changing when we get foreigners to buy our products... It is because of their pressure that they have imposed ETPs for the tanneries.”

Tannery Relocation to Savar

An Important model for Water Management

- Addresses the problem of **land scarcity**
- Central ETP Addresses **cost issues** and **collective action** and eases **administrative complexity**

But, as the relocation remains incomplete, some are beginning to ask if this just relocates the pollution?

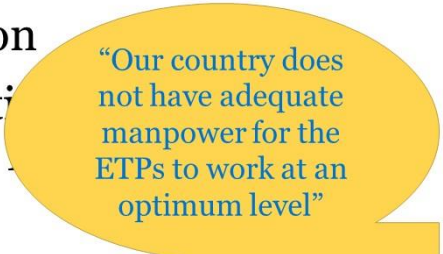
2. Awareness & Education

“The main reason (for progress) is the education level among factory owners”

Awareness – water & sustainability

Education – general education

Education - technical education
workforce needs (engineers & ...)



“Our country does not have adequate manpower for the ETPs to work at an optimum level”

3. Perceptions of Health

Water pollution linked with Air pollution

Skin irritation

stomach & digestive disorders

Cholera

Hepatitis/jaundice

Kidney disease

Cancer

Mosquitos

3. Perceptions of the Environment

Psychosocial Impacts & Expressions of Loss

“We are losing our culture”

Fish have lost their taste

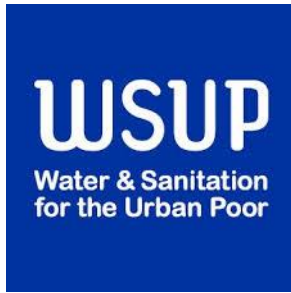
Religious significance of the water

Changed gender & social relations

“There is no fish now”

“Rivers are like mothers to the land”





YOUR RECOMMENDATIONS for Government

- Develop and oversee **Central ETPs**
- **Relocate factories** to areas with Central ETPs
- Raise standards of **education**: general & technical
- Conduct **free trainings** with industries to raise awareness
- Facilitate and coordinate **financial assistance**
- Streamline government **permitting procedures**
- Conduct more **consistent monitoring** of the industries
- Enhance **Government-Buyer-Industry collaboration**



ধন্যবাদ!

Industry Participants

DoE



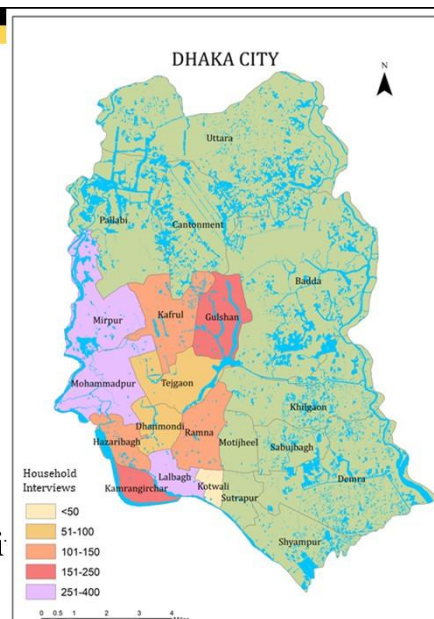
5. Presentation main results – A public perspective – R. Brouwer



Household Survey

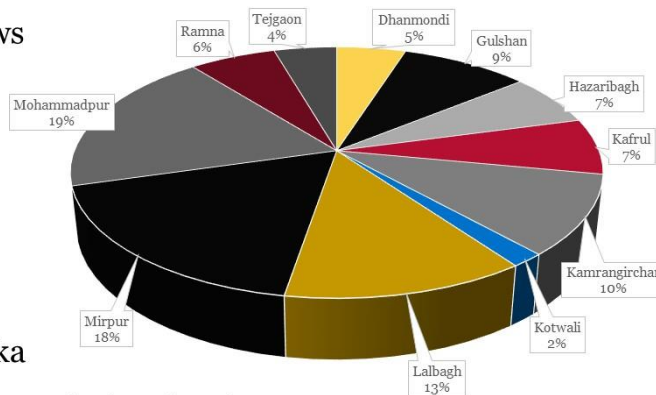
- 2,000 in-person interviews
- July-October 2019
- 10 interviewers

- Across 11 Thana's in Dhaka
- Representative based on population density
- 1,169 men (58%), 831 women (42%)



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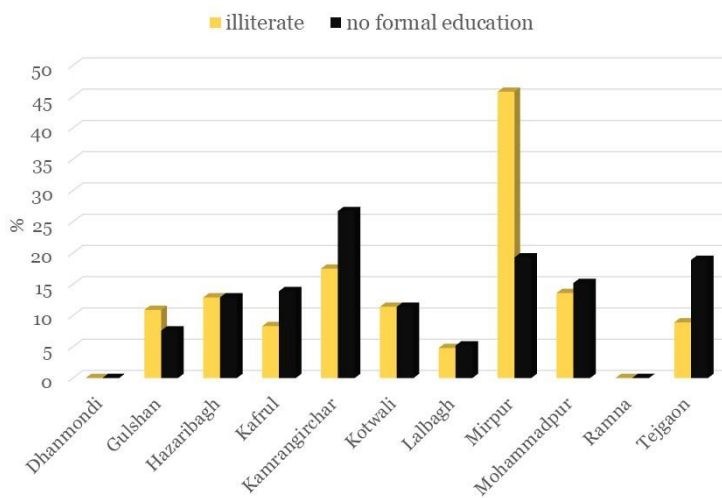
Survey structure

- Socio-demographic household characteristics
- Water and sanitation characteristics
- Environmental characteristics
- Willingness to pay for water quality improvements

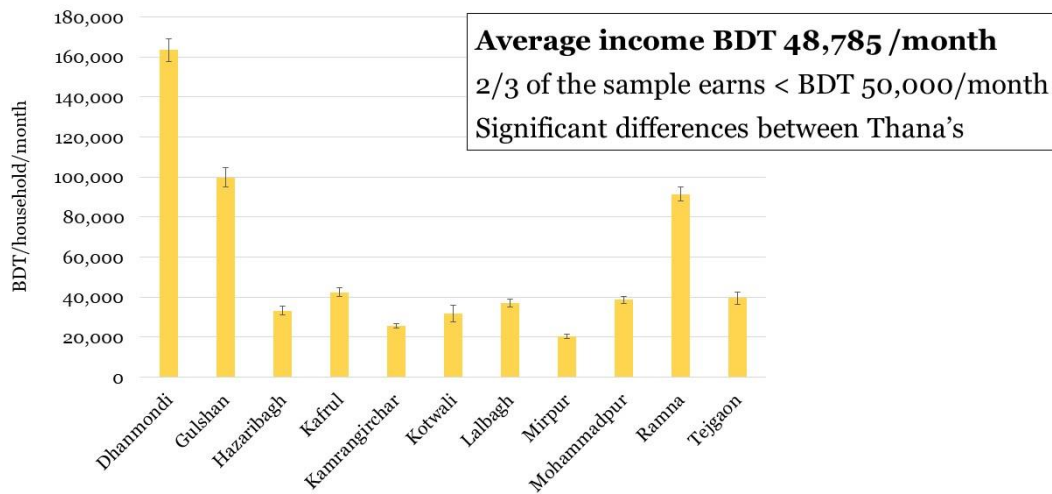
Socio-demographic sample characteristics

- 18-75 years, average age 41
- 88% Muslim, 11% Hindu
- **16% cannot read or write**
 - 13% can read and write but has no formal education
 - 13% finished primary school and 8.3% high school
 - 23% has a secondary school certificate (SSC/HSC)
- Average household size is 4.2, average number of children is 1.3

Socio-demographic sample characteristics



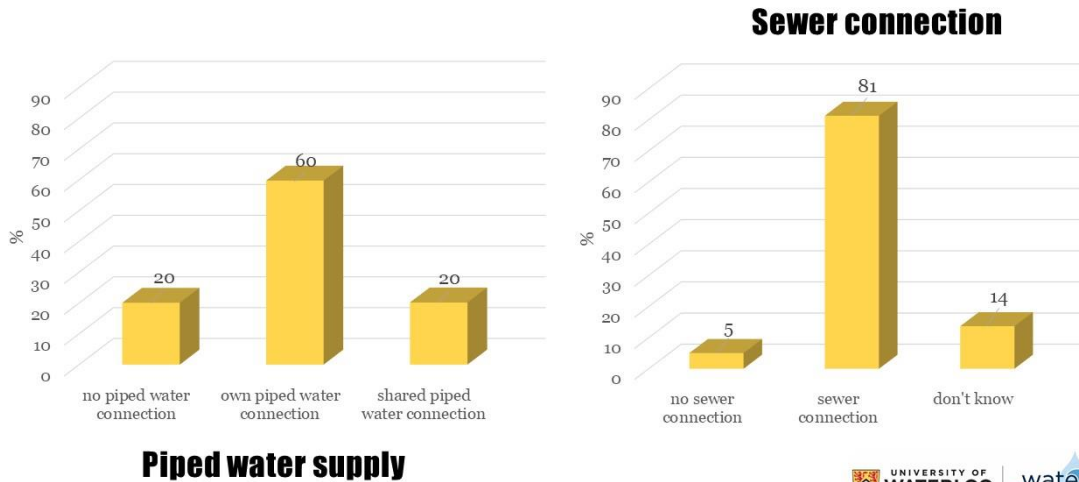
Socio-demographic sample characteristics



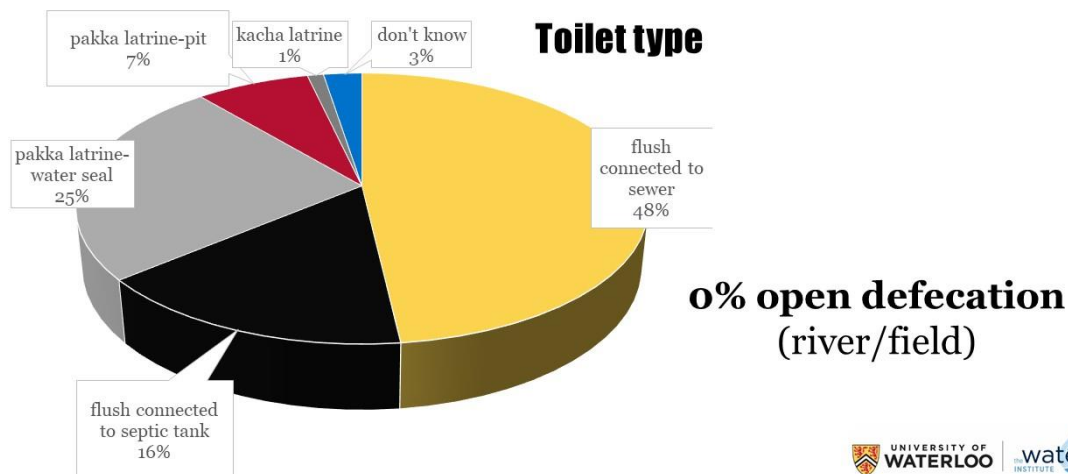
Socio-demographic sample characteristics

- 36% own the house they live in, remainder rents
- 41% lives in an apartment building
- 99% has electricity
- 28% lives in Dhaka since birth
- Average respondent lives 18 years in Dhaka

Water and sanitation characteristics



Water and sanitation characteristics

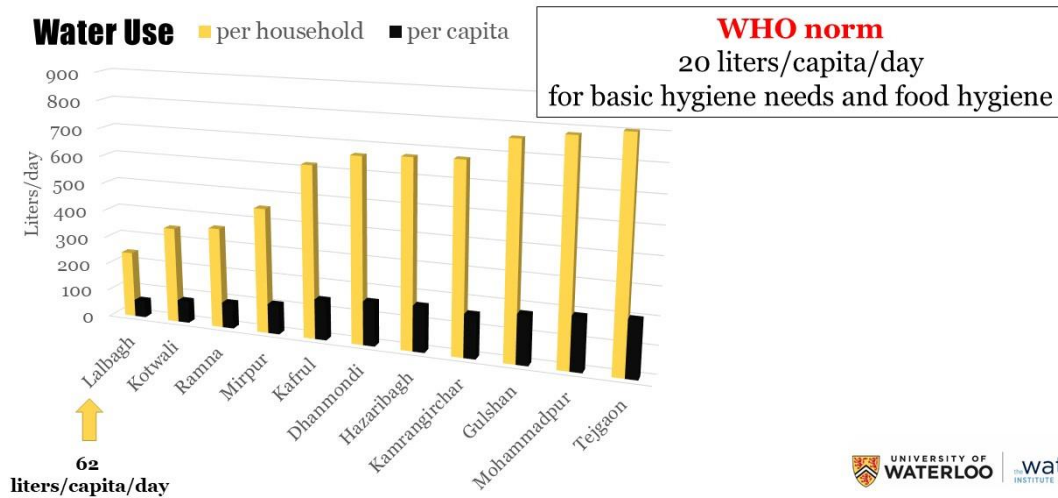


Water and sanitation characteristics

- 40% shares their toilet with other families

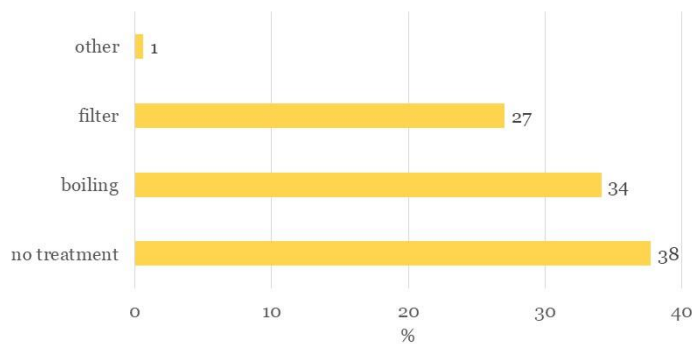
What happens to toilet waste?	No sharing (%)	Sharing (%)
Paid collection	16	9
Removed by household	1	1
Connected to sewer	72	68
Don't know	8	12
Other (e.g. drain)	3	10

Water and sanitation characteristics



Water and sanitation characteristics

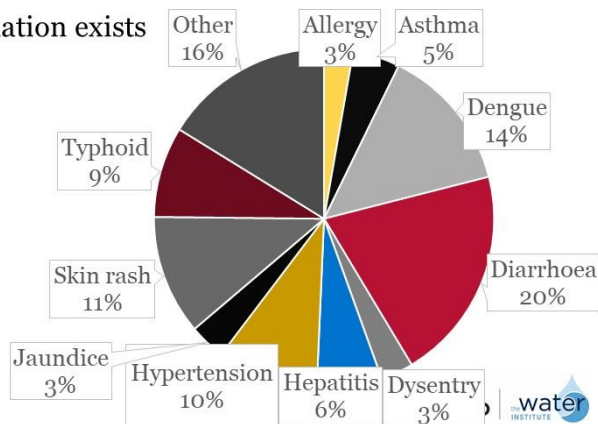
- 39% believes their water is not safe to drink, 56% thinks it is safe
- 5% does not know



Water and sanitation characteristics

- 10% believes that health problems in their family are related to water supply
- 17% does not know if such a correlation exists

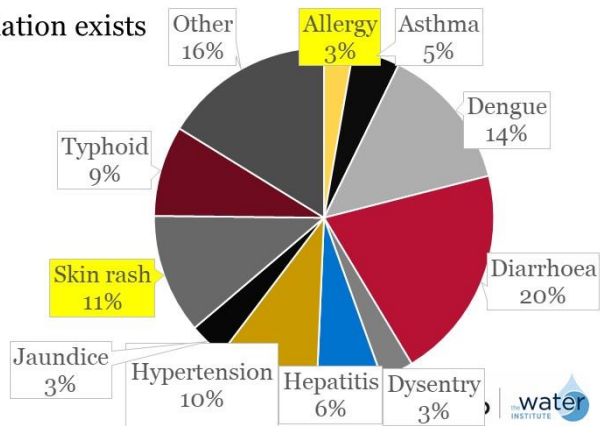
Most frequently mentioned health issues



Water and sanitation characteristics

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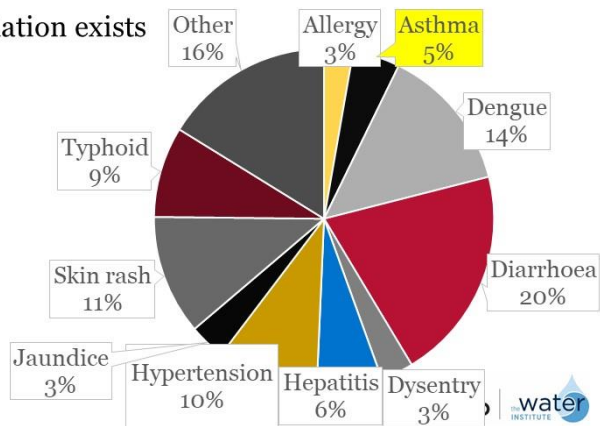
Most frequently mentioned health issues



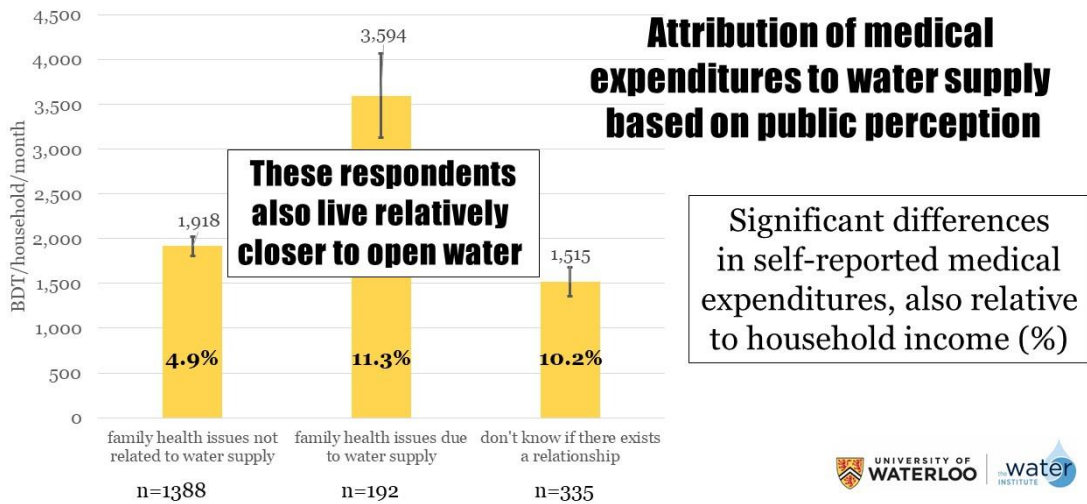
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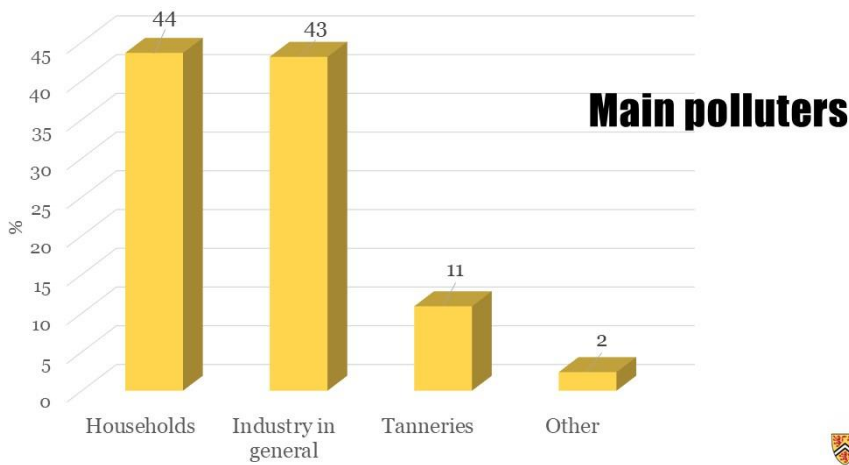
Water and sanitation characteristics



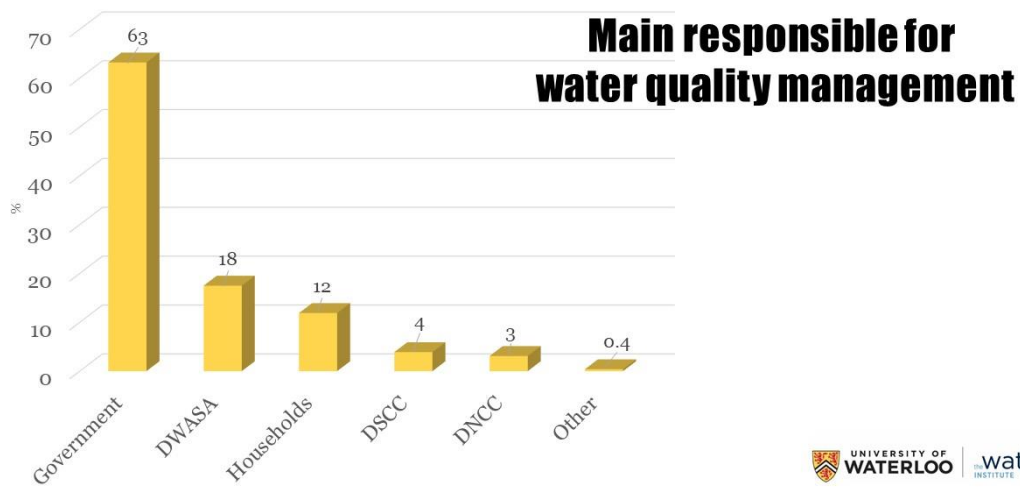
Environmental characteristics

- All respondents live within 850 meters from open water
- 50% within 160 meters
- 25% within 80 meters
- 10% within 20 meters
- **47%** express concern about this open water, mainly because of smell
- **26%** are concerned about their health
- 5% have considered moving because of the open water

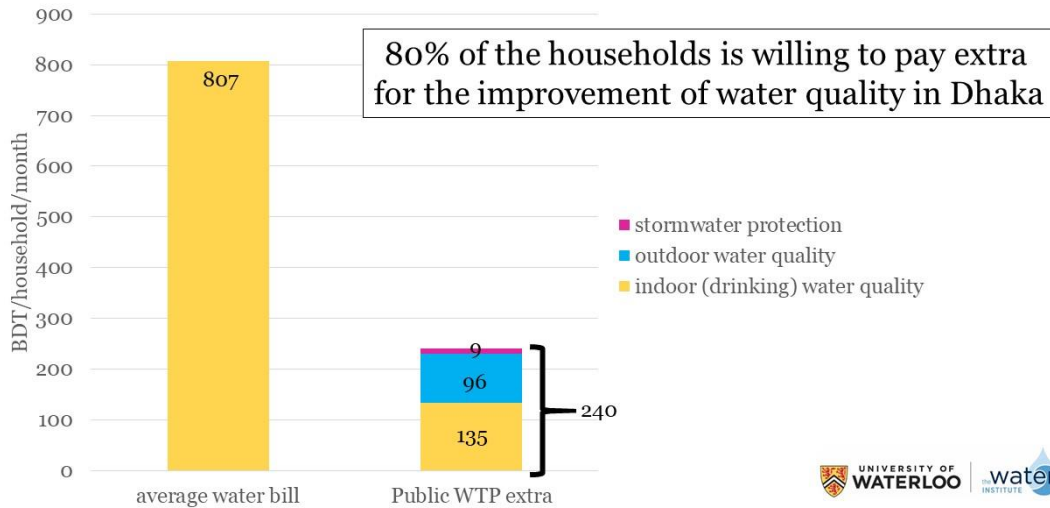
Environmental characteristics



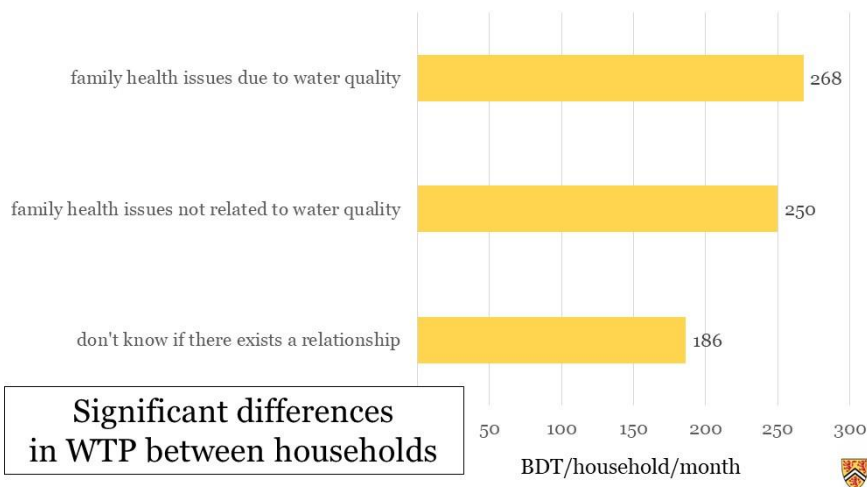
Environmental characteristics



Willingness to pay for water quality improvements



Willingness to pay for water quality improvements



Summary of main findings (1)

- Almost **40%** of the sample believe their water source is **unsafe** to drink
- More than **60%** **treat** their **water** before drinking (boiling/filter)
- **10%** relate their family's **health problems** to their **water supply**

- Almost **half** of the sample is **concerned** about **open waters** near their home (smell)
- A **quarter** has concerns about the **impact** of open waters **on** their **family's health**

Summary of main findings (2)

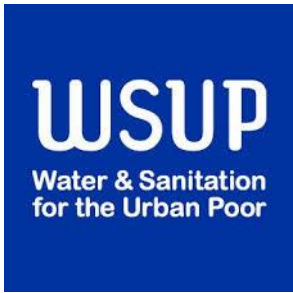
- **Awareness** levels of what happens with household **wastewater** seem **low** (people believe they are connected to a treatment system whereas in reality they are not)
- Households relate **water quality management** mainly to their **water supply**, not so much to open waters surrounding them
- A large share of the households consider themselves a **polluter** and 12% even feel **responsible** for the improvement of water quality
- As many as **80%** would agree to pay a **Water Development Fee** to improve indoor and outdoor water quality in Dhaka

Acknowledgements

- Many thanks to Sharmin Dilruba and the team of interviewers who worked their way through thana's and dengue to fill the interview quota

অনেক ধন্যবাদ (Aneka dhan'yabada)





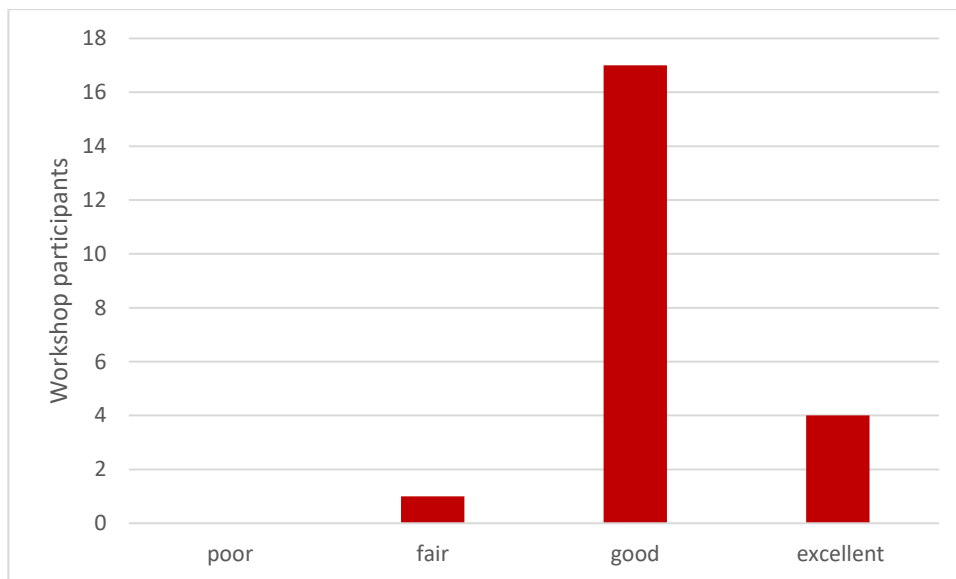
Policy Workshop Evaluation

After the workshop, 23 participants anonymously completed a one-page evaluation form. One participant did not give a score for the overall rating of the workshop, while another participant did not complete the part where participants were asked to rate various aspects of the workshop. This hence leaves us with 22 useable responses.

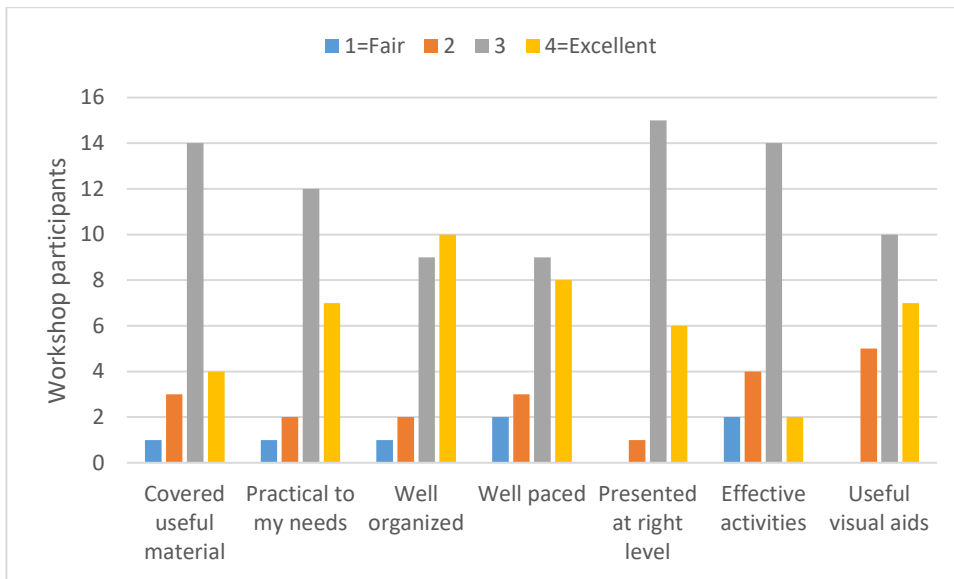
The evaluation of the policy workshop focused on (1) the content of the workshop, (2) what participants considered the most useful part of the workshop, (3) what could have been done to improve the workshop, (4) suggestions and recommendations from the participants, and (5) if the information presented at the workshop changed their view about water challenges in Dhaka (and if yes, how and if no, why not). Participants were also asked to rate the workshop overall on a scale from poor to excellent.

The results of the evaluation are presented below.

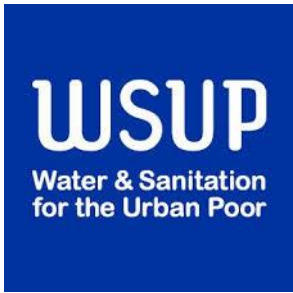
- 1) The overall evaluation of the workshop was good. 77% of the participants voted for this category, followed by 18% who thought the workshop was excellent.



2) The content of the workshop was rated on a scale from 1 (=fair) to 4 (=excellent). Here, participants were asked to rate various aspects related to the content of the workshop, as show in the figure below.



Most aspects were rated 3 (54% of the votes), especially “covered useful material”, “practical to my needs” “presented at the right level” and “effective activities”. This was followed by 4 (excellent) (29% of the votes most of which went to “well organized”) and 2 (13% of the votes). Hardly anyone rated the various aspects as 1 (fair).



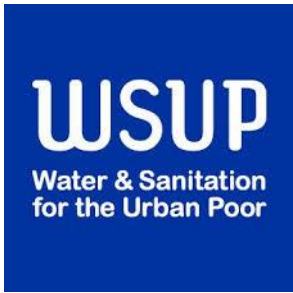
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3) Participants were asked 4 open-ended questions about the policy workshop. Their answers are presented in the table below.

Not all answers were always very clear. Where text was illegible, the answer was omitted from the tables below. Of those who answered the question if the workshop changed their views, 13 said yes, 3 said no and 1 said somewhat.

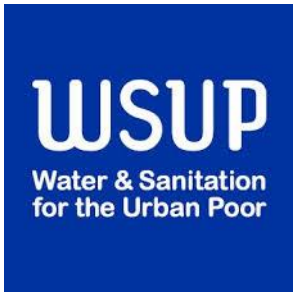
<p>What was the most useful part?</p>	<p>Presentations & input from WASA and DoE The technical presentations Industry & institution In the workshop you presented and discussed policy makers of BD that's good thing Water quality & its management are very important for me All It is important for the policy makers to understand people's view which might be so different from the reality Open discussion It enlighten me about the present water pollution management. Information regarding household survey for water quality perspective. Industrial pollution of freshwater scarcity We get to know the opinions of policy makers about the water related problems. The research outcome seems like the most informative topic among others. The statistics that made me excited & the presentation. To see the results of perception from different perspectives. All the three presentations People are willing to pay extra for safe water Having instant perception of govt. policy makers in waste water management & regulation Collection of perception of household people/domestic level. Water quality Sources of water pollution in Dhaka</p>
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<p>What could have been done to improve the workshop?</p>	<p>Handout of ppts should have been available allowing us to concentrate at particular particular part of the study</p> <p>More interactive discussions</p> <p>To handover the presentation copy</p> <p>To see the data/slide of those who argue</p> <p>Policy maker with leaders should share this platform. As local leaders can work on social awareness</p> <p>I think this workshop may be imposed by attending. May other stakeholder participant & have to share their own experience</p> <p>If the literature review could be presented</p> <p>A proper summary can be presented at the beginning so that people get clarity on the key findings</p> <p>Starting on time</p> <p>in research context, more involvement of govt. policy makers and employees should be incorporated for clear overview</p> <p>Consider master plans for sewerage in Dhaka city & other policies.</p> <p>Need to inclusion of academic representative of Environmental science of Jahangirnagar university because they are working on water pollution</p> <p>Time was very limited but a lot needed to be discussed.</p> <p>It was all good</p> <p>The workshop is okay & the participants is less. It would be better if it increases.</p> <p>To involve the people from government in the discussion more effectively.</p> <p>Provide copies of presentations.</p> <p>Summary findings could be present at the beginning.</p> <p>Have the technical session in presence of policy persons before they leave</p> <p>There is no hotspots map or location industrial hotspots.</p> <p>Identifications monitoring & management system</p> <p>Specific line of action.</p>
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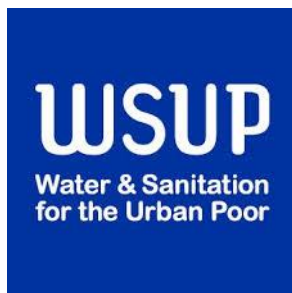
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<p>Any other comments or suggestions?</p>	<p>Share the entire report with participants ahead of the workshop Need more research; Need more review document We need pinpoint recommendation & suggestion for the govt or the govt officers to implement the plan Yes, next survey should be on the tenders and contractor who work with govt. will lead the missing pie The finding of the workshop further justified by more extensive study Policy part can be more elaborate "Policy recommendation" needed further clarity especially for the policy makers. Please review the previous work If the project is not completed, please involve more govt. and NGO officials to collaborate and have to produce clear scenario. Holistic approach should be considered. Need to add impact of transboundary river in water pollution It could be more useful if you guys could provide data summary more elaborately. Research like this one, it also can be more at village site where hygiene is hardly maintained and sanitation management is poor As these are based on people perception, so might need more clarifications Policy recommendation regarding polluter pay, recycling of water Guide line to improve water quality along with the law legislation. Should need to refer all policy on water & reviews so far.</p>
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<p>Did the information change your views about water challenges in Dhaka? If yes, how. If no, why not?</p>	<p>No. Most findings are already talked about for a time. Yes, slightly. New type of study. So interesting Yes, to talk with authority, users clarity water quality improvement Yes. I can know current situation of Dhaka Yes, many fine... finding are cleared to me by this workshop No, because these outcomes are already proven. Everybody knows that. Findings should go beyond that. The issue str.... me that SP/. People believe that their waste from toilets are getting treated Somewhat Yes, it has changed a bit. We, the city dwellers, should be careful about producing pollutants. The findings are useful. But execution is difficult. Yes. We can get a clean picture about water related situation nowadays in Dhaka. Yes people of Dhaka are using waters without knowing if safe or not. Yes; as some information related to water management system were new for me. Not change but widen my view regarding water pollution and public perception. Yes, sensentized to give more emphasis waste water. Yes, survey the findings & share the response of the participants Yes little bit. People accepted to pay for improved water quality for distinct purposes. But there is no central /coordinated technology. But portable technology is highly essential. Yes, from different aspects of the survey report. Yes. Need to stress on awareness & behavioural part.</p>
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List of workshop participants

No.	Name and Affiliation
1.	Mr. Abdullah Al Mohsin Chowdhury Secretary Ministry of Environment, Forest and Climate Change Government of the People's Republic of Bangladesh
2.	Mr. Md. Shohedul Hoque Patwary PS to Secretary Ministry of Environment, Forest and Climate Change Government of the People's Republic of Bangladesh
3.	Dr. Kazi Anowarul Hoque Additional Secretary Local Government Division Ministry of Local Government, Rural Development and Co-operatives Government of the People's Republic of Bangladesh
4.	Dr. A K M Rafique Ahammed Director General Department of Environment (DoE) Government of the People's Republic of Bangladesh
5.	Dr. Md. Sohrab Ali Director Department of Environment, Dhaka Metropolitan Office Government of the People's Republic of Bangladesh
6.	Dr. Fahmida Khanam Director, NRM, Department of Environment (DoE)
7.	Mr. Mahbubur Rahman Khan Assistant Director Department of Environment (DoE) Government of the People's Republic of Bangladesh
8.	Ms. Badrun Nahar Director (Planning) Water Resources Planning Organization (WARPO)
9.	Engr. Taqsem A Khan Managing Director and CEO Dhaka Water Supply and Sewerage Authority (DWASA)
10.	Mr. A. K. M. Shahid Uddin Director (Technical) Dhaka Water Supply and Sewerage Authority (DWASA)

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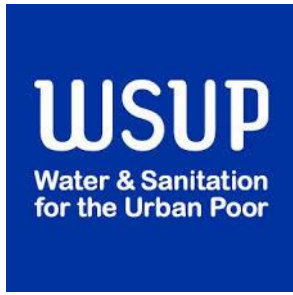
11.	Dr. Sazia Afreen Executive Engineer DWASA
12.	Mehanaz Moshfika Assistant Engineer DWASA
13.	Dr. Md. Alamgir Hossain Chief Microbiologist and Lab Head WASA
14.	Engr. Motaleb Hossain Sarker Director Water Resources Management Division Center for Environmental and Geographic Information Services (CEGIS)
15.	Ms. Bushra Nishat Water Management Expert and Freelance Consultant- World Bank
16.	Dr. Mohammed Abed Hossain Professor Institute of Water and Flood Management BUET
17.	Dr. Mahbubur Rahman WASH Lead, icddr
18.	Ms. Mahfuza Islam Sheuli Assistant Scientist , Emerging Infections Infectious Diseases Division icddr
19.	Dr. J.T.A.Chowdhury Water Quality/ Environment Specialist
20.	K. Azharul Haq Director BWP
21.	Dr. Md. Khairul Islam Regional Director WaterAid
22.	Ms. Hasin Jahan Country Director WaterAid Bangladesh

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23.	Mr. Abdus Shaheen Country programme Manager WSUP Bangladesh
24.	Dr. Farzana Begum Research and Policy Lead WSUP Bangladesh
25.	Ms. Rowshan Sharmin Jahan WSUP Bangladesh
26.	Pritom K Saha Coordinator M & E WSUP Bangladesh
27.	Ms. Rosie Renouf Research Officer Water & Sanitation for the Urban Poor
28.	Mr. Muhammad Hossain Industry Representative
29.	Tanvir Rahman Emon Industry Representative
30.	Mr. Md. Mostakim Rahman Industry Representative
31.	Mr. Md. Manjurul Alam Industry Representative
32.	Mr. K.M.Ferdous Mahmud Industry Representative
33.	Tamjid S. Awngsn
34.	Professor Mizan R Khan Deputy Director ICCCAD
35.	Professor Roy Brouwer Executive Director Water Institute Department of Economics University of Waterloo
36.	Professor Susan Elliott Professor, Geography and Environmental Management University of Waterloo
37.	Dr. Jennifer Liu Professor, Cultural Anthropology University of Waterloo



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38.	Dilruba Sharmin PhD Student, School of Environment, Resources and Sustainability University of Waterloo
39.	Dr. Shuhaida Samia Intern Doctor Shikdar Medical (Interviewer)
40.	Dr. Shuvojyoti Intern Doctor ShMC (Interviewer)
41.	Dr. Enayet Ullah Soad Intern Doctor (Interviewer)
42.	Ms. Benazir Jahangir Medical Student (Interviewer)
43.	Mr. Zubayer Ibn Zaman Medical Student (Interviewer)