POVERTY DIAGNOSTIC OF THE DRINKING WATER, SANITATION AND HYGIENE SECTOR IN TAJIKISTAN

PRELIMINARY FINDINGS

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Background: Objectives of the Session

- **Objective:** To inform the audience about the preliminary results of the PD Wash study and utilize its findings to discuss how they can be used in improving targeting of the WASH interventions in the country.

- The session will include four distinctive parts:
  - General presentation of the PD-WASH results focused on drinking water supply sector in Tajikistan (40 min)
  - Questions and Answers session (15 min)
  - Working in small groups (4) structured along the following topics (45 min)
    - WASH conditions in schools
    - WASH conditions in households (2)
    *Note: the in-group discussions will be based on the prepared case-studies and guiding questions*
  - Group presentations and identification of priority actions for improving targeting and social accountability in the sector (30 min)
Numbers are in: what is the PD WASH?
Numbers are in: reality check?

In **Nigeria**, 61 percent of the rural population lives more than 30 minutes away - and 34% lives more than 2 hours away - from a functioning water source. Thirty percent of water points and water schemes fail within the first year.

In **Pakistan**, despite improvements to nutritious food, reductions in open defecation and poverty, childhood stunting has stayed constant at 43 percent.

In **Indonesia**, it is estimated that only 5 percent of urban wastewater is safely treated and disposed.

In **Dhaka**, about 88 percent of fecal waste from on-site systems is not properly treated or disposed, with dire consequences especially if it makes its way into sources of drinking water.

In **Tunisia**, the richest 20 percent of households receive an estimated 27 percent of water subsidies, while the bottom 20 percent of households receive only 11 percent of the subsidies.

In **Ecuador**, 93 percent of people in urban areas and 76 percent in rural areas has improved access to water services but still, 24 percent of the rural population drinks contaminated water.
Background: Poverty Diagnostic of WASH Sector in Tajikistan

- **Objective:** Identify key challenges and opportunities to improve access, quality, and sustainability of WASH services to the poor and bottom 40 percent of the income distribution
  - Generate rigorous evidence on WASH conditions
  - Identify opportunities for sector reform and service improvements
  - Strengthen local capacity for evidence-based decision-making
  - Promote participation of consumers and other stakeholders in decision-making

- **Key activities:**
  1. **Qualitative study** – WASH conditions of contrasting areas and population groups
  2. **Quantitative survey** – WASH outcomes of a representative sample at the household level, schools level (including chemical water quality testing)
  3. **WASH maps** – visualization of service conditions across districts
  4. **Program review** – stock of pilot and/or innovative water schemes
  5. **Capacity building** – workshops on mapping tools, database maintenance, etc.
Summary of Research Phases

Phase 1: Secondary household survey analysis
- Analysis of poverty and WASH service conditions using available survey data
  (Census, DHS, MICS, HBS, TLSS, L2T)

Phase 2: Spatial analysis with poverty WASH maps
- Spatial maps of drinking water and sanitation conditions using secondary data
  (TLSS, Census)

Phase 3: Primary qualitative research
- Understanding of consumer experiences, coping methods, and constraints for service delivery in contrasting research sites
  (38 FGDs, 30 KII, 10 MCSs)

Phase 4: Primary surveys
- Analysis of nationally representative WASH surveys at the household and school level (including chemical water quality testing)
  (3000 households, 300 schools, 1400 water quality tests)

Phase 5: Water scheme review
- Review of selected decentralized WASH service delivery schemes through primary qualitative research
  (8 rural water and sanitation schemes, 14 FGDs and 41 KII)
# Poverty Rates and Multi-dimensional Poverty Index

<table>
<thead>
<tr>
<th></th>
<th>National</th>
<th>Dushanbe</th>
<th>Sogd</th>
<th>Khatlon</th>
<th>RRS</th>
<th>GBAO</th>
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<tbody>
<tr>
<td><strong>Multidimensional Poverty Index</strong></td>
<td>64</td>
<td>22</td>
<td>63</td>
<td>72</td>
<td>75</td>
<td>61</td>
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<tr>
<td><strong>Severe Multidimensional Poverty Index</strong></td>
<td>33</td>
<td>5</td>
<td>31</td>
<td>38</td>
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<td>29</td>
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<td><strong>Deprivation indicators</strong></td>
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<td><strong>Education</strong></td>
<td></td>
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<tr>
<td>Households with adult individual members (18+) cannot read or write</td>
<td>39</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Household member (+20) does not have complete secondary education</td>
<td>41</td>
<td>32</td>
<td>37</td>
<td>41</td>
<td>53</td>
<td>29</td>
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<tr>
<td>No household member (+25) has tertiary education</td>
<td>79</td>
<td>58</td>
<td>81</td>
<td>84</td>
<td>83</td>
<td>65</td>
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<td><strong>Demographic and labor</strong></td>
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<tr>
<td>Age dependency ratio &gt;1</td>
<td>22</td>
<td>17</td>
<td>19</td>
<td>27</td>
<td>26</td>
<td>16</td>
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<tr>
<td>Both household heads are unemployed</td>
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<td>16</td>
<td>12</td>
<td>13</td>
<td>16</td>
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<tr>
<td><strong>Services and infrastructure</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>No access to sewage</td>
<td>73</td>
<td>19</td>
<td>76</td>
<td>80</td>
<td>85</td>
<td>88</td>
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<tr>
<td>No access to piped water</td>
<td>67</td>
<td>8</td>
<td>70</td>
<td>80</td>
<td>72</td>
<td>89</td>
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<tr>
<td>Heating from oven, or heating is absent</td>
<td>70</td>
<td>9</td>
<td>77</td>
<td>78</td>
<td>80</td>
<td>73</td>
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<td>No garbage disposable system</td>
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<td>4</td>
<td>64</td>
<td>73</td>
<td>76</td>
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<tr>
<td>No toilet inside the house</td>
<td>78</td>
<td>21</td>
<td>82</td>
<td>88</td>
<td>89</td>
<td>90</td>
</tr>
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</table>
Key Definitions from 2000

“Improved water”
- *Piped drinking water on premises*: Piped household water connection inside the user’s dwelling, plot or yard
- *Other improved drinking water sources*: Public pipes or stand pipes, tube wells or boreholes, protected dug wells, protected springs, rainwater collection

“Basic Water”
- *Basic water*: Improved water sources that can be accessed within 30 minutes or less

“Unimproved water”
- *Unimproved drinking water sources*: Drinking water from unprotected dug wells, unprotected springs, carts with small drum, tanker truck, bottled water
- *Surface water*: River, dam, lake, pond, stream, canal or irrigation channel
Discussion Topics

Core questions

• What is the availability and condition of water, sanitation and hygiene services in different regions?

• What types of costs are being incurred and how are different groups coping with poor service?

• What other factors have a bearing on service quality and interaction with service providers?

• What changes do consumers want to see and how are they willing to contribute?

Cross-cutting issues

• Are some sites (e.g. rural areas) more likely to have poor service?

• Do some households (e.g. poor) incur larger costs than others?

• Are some household members (e.g. women and children) disproportionately affected?

• Are there differences among various groups’ priorities?

• How will the results of the study inform better targeting mechanisms?
Preliminary Findings

Drinking Water
Trends in multi-tier levels for household access to main water source, 2000-2016

**Key observations**

- Proportion of households using improved water sources increased between 2000-2016 from 55 to 74 percent
- Reliance on surface water declined from 33 to 15 percent
- Improvements were not equalized for the lowest and highest tiers, with almost no changes observed in the highest tiers
Drinking Water – Geographically Uneven Coverage

Piped drinking water networks are largely unavailable in rural areas

- Proportion of rural households with access to “improved water on premises” remained unchanged at 36 percent between 2000-2016. Number of hh reporting access to piped water on premises and piped water on dwelling have declined.

Water source diversification has a strong seasonal pattern in rural areas

- In wintertime, service interruptions in piped water supply are compensated with other (non-piped) improved water sources, but in summertime households largely rely on unimproved water sources due to heightened water scarcity.
At the national level, 9 percent of the sampled households indicate that they have at least one household member who has one or more of the functional disabilities, 7 percent of which are unable to self-care. When accounted for severity of disabilities, a share of households reporting some level of disabilities increases to 60 percent.
Drinking Water – Access Across Wealth Groups

Access to drinking water sources is seen correlated to location and to a lesser extent to wealth distribution.

- Access by the top 60 to improved to “improved water source on premises” declined from 69 to 54 percent and piped water on premises” has dropped from 61 to 43 percent.
- A general upward trend towards “improved/basic water” or “improved water on premise” is observed among bottom 40 percent.

Disparities in access to improved water sources between the rural-urban population are greater than between two distinct wealth groups.

- Disadvantages of rural residents are far greater, ranging between 51 percentage points for “improved water on premise”, 58 percentage points for “piped water on premise” and 60 percentage points for “piped water inside dwelling”.

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Drinking Water – Regional Differences

• At the national level 62 percent of households have access to piped water sources.
  • GBAO and Khatlon region have the largest share of residents relying on “surface water”
  • DRS and Khatlon region have the highest share of households who use “piped water on premise”
Drinking Water – Availability and Condition (qualitative results)

• **ONE of FOUR households report not having access to sufficient quantities of water when needed.**
  • 66 percent of these households cited inavailability of the water in the source as a main reason for the restricted access.
  • The problem is more acute in urban areas, as rural households typically rely on other alternative sources for their main source. Households in Khatlon region are observed to use more sources than the national average.

Other concerns shared by the respondents through quantitative and qualitative surveys:

• Length and frequency of service interruptions, low water pressure, contamination
• Power cuts leading to frozen pipes in winter
• High water scarcity in summer
• Water needs significant treatment before domestic use

Container for storing drinking water (Rudaki, RRS)
Drinking Water – Water Quality

Water quality tests indicate presence of relatively high levels of coliform bacteria in drinking water at the national level.

- 57 percent of the water consumption point tests and 55 percent of the water source tests show presence of total coliforms in drinking water.
- Coliform bacteria are more commonly detected in water sources used by rural households (58 percent), as opposed to urban households.

A few incidences of E.coli were detected in drinking water.

- Mainly water sources in rural areas and water sources used by bottom 40 households (2.7 percent) have higher proportion of E.coli.
- 3.7 percent of sample households in Khatlon region were identified to have E.coli at the water source
Drinking Water – Low Chlorine Levels

On average chlorine concentrations are very low and do not comply with public health standards (national and WHO)

- None of the tested water samples for Tajikistan comply with the standards for total chlorine concentration
- 1 percent compiled with the guidelines for free chlorine concentration
Drinking Water – Poverty Angle

Population with the poorest drinking water conditions are largely concentrated in districts with high poverty rates, particularly in Khatlon and Sugd, as demonstrated by number of people whose main source of drinking water is open water or an unimproved well.
The distribution of rural population who rely on surface water resembles that of the whole population, whereas urban residents with poor water access are concentrated in only few districts.
Drinking Water – Monetary Costs (all water sources)

- Only 58 percent of households indicated that they pay for their water services
  - Proportion of households who pay for water services is higher in urban areas (88 percent)
  - 47 percent of households in rural pay for drinking water supply
  - For those households which pay for water, the total expenditures on water supply account for 5 percent of their total annual expenditure.
  - Usually, a fixed normative tariff is applied

- Main types of monetary costs
  - Nominal tariff (Vodokanal)
  - Storage tanks and containers
  - Water delivery by trucks
  - Bottled water
  - Fuel for vehicle
  - Regular pipe repairs
  - Electricity for pumps
  - Meter repair or replacement
Drinking Water – Monetary Cost for Households Connected to Vodokanal network

- Low-income households spend a slightly larger monthly amount on water supplied through piped networks than middle income households
  - On average, households spend around \(300\text{ TJS}\) on piped water supply
  - Monthly payment amounts are similar in spite of large differences in water use (due to a flat rate)
Drinking Water – Monetary Costs (all water sources)

- Payment systems vary by location and household characteristics
  - Rural households with no piped water supply incur substantial costs for alternative sources
  - Some households living in apartment buildings incur extra costs, since piped networks do not reach their apartment
- Meters are not commonly found, but they reduce the cost of water significantly
Drinking Water – Measures taken by households for dealing with high costs for obtaining drinking water from alternative sources

• Low-income participants cited a wide range of measures for coping with high drinking water costs incurred due lack of functioning water supply networks
  - Borrow
  - Sell assets
  - Reduce consumption (food, children’s clothes, wedding expenses, water use)
  - Have children fetch water
  - Negotiate to defer payment or pay in installments

• Middle-income households cited additional expenditures incurred, especially during times of water scarcity
  - Buy water from trucks, an additional expense of up to 50 TJS per month
  - If connected to a shared tap, install pumps to deliver water to their residence

Children bring water home from a spring (Ganchi raion, Sugd)
25 out of 38 FGDs participants report spending **more than one hour per day** on water collection

- Daily time spent varies between 0 and 6 hours (Istaravshan)

This has significant time and health implications that disproportionately affect women and children

- Long queues for shared taps
- Power source interruptions
- Time and physical cost of multiple trips
- Cold and spine injury related to carrying water

- Waterborne diseases
- Scheduling daily/weekly activities around water availability
- Time spent on boiling, distilling, storing water
Preliminary Findings

Customer experience with service delivery
Customer experiences in interacting with the Vodokanal

- Consumer satisfaction with piped water service is “moderately bad”, especially with regards to timely response from the utility firm and transparency of bills.

![Bar graph showing satisfaction of Vodokanal customers with service provided.](image)

Satisfaction of Vodokanal customers with service provided

(scores 1 = bad, 2 = moderately bad, 3 = moderately good and 4 = good)

- Timely response to complaints: 1.7
- Controllers' qualification and ability to work with clients: 2.9
- Transparency of drinking water bills: 2.3
- Composite score: 2.3

N=110 participants in 15 focus groups.
Customer experiences in interacting with the Vodokanal

- There are regional differences across Vodokanal users in different sites
  - The highest score for interaction with the service provider in Gissar (RRS), Khujand (Sugd) and Dushanbe
  - The lowest score in Khorugh, Shartuz (Khatlon) and Istaravshan (Sugd)

- Consumers and service providers often disagree about how much water was used, since most households do not have meters
  - There are reported cases of “missing payments” where participants are unable to confirm that they have already made a payment and they are asked to pay again
  - Even with metered service, there is lack of trust, consultation, transparency and communication between service providers and consumers
  - It is often older women who deal with male service providers during regular work hours
Roles of Local Leaders

- Local (mahalla) leaders play a very limited role in facilitating communication and solving other issues related to water, sanitation and hygiene
  - In 29 out of 38 FGDs, participants said mahalla leaders have no or very limited role
- The role of mahalla leaders are limited because of supply- and demand-side constraints
  - Higher authorities may not answer complaints
  - Some leaders do not want to file complaints or oppose higher authorities
  - Local populations usually have poor relations with local leaders
- Awareness of and experience with consumer unions is even lower
  - Participants report having heard of consumer associations only in 2 FGDs, but even these participants have never had any interaction with such associations
Roles of Local Leaders and Associations

- Usually, service problems are resolved on an individual basis or with the help of neighbors or wealthy community members.

- Participants believe effective mahalla leadership can improve service conditions.
  - Community meetings to discuss issues affecting residents
  - Community mobilization to solve problems
  - Facilitating communication with service providers and higher authorities
  - Solving disagreements among community members
  - Coordinating repairs and collecting resources from community members
Conclusion
Summary and Implications

- Findings reveal high inequality in WASH conditions between cities / towns and rural areas. High monetary, time and health costs are incurred due to lack of functioning piped water networks.

- The situation is especially dire in rural areas and for low-income households.

- Findings illustrate the need and urgency for intervention in the WASH sector, as well as challenge the view that WASH problems can not be solved.

- Consumers are already incurring very high monetary and coping costs to deal with poor service delivery, and would be willing to pay higher tariffs for better service from a piped network.

- There is an urgent need to improve the quality of service delivery – restoring transparency and accountability of service providers is key.

- Local leaders and communities are currently unable to hold service providers accountable in most areas.
Q&A