SYSTEMATIC ANALYSIS OF SMART WATER METERING AND ITS POTENTIAL BENEFITS: A CASE STUDY OF KARACHI

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INTRODUCTION

In Karachi over the years due to an increase in population pressure, climate challenges, weakened and old-age infrastructure, and poor water governance and its mechanism, water demand in Karachi has been exacerbated.

Sources: The News Paper  26 June 2022.
Why smart water metering is inevitable for improving water governance in Karachi (systematic analysis: potential inefficiencies outcomes).

1. Source: Aljazeera report on water supply challenges in Karachi.
Population pressure

1. The total population of Karachi by 2030 will be around 20 million consequently large population requires higher water supplies.

Table: water and supply-demand gap in Karachi

<table>
<thead>
<tr>
<th>Year</th>
<th>Population (M)</th>
<th>demand (MGD)</th>
<th>supply (MGD)</th>
<th>Gap (MGD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>11.33</td>
<td>567</td>
<td>410</td>
<td>157</td>
</tr>
<tr>
<td>2017</td>
<td>14.9</td>
<td>820</td>
<td>650</td>
<td>170</td>
</tr>
</tbody>
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Sources: Sindh bureau of statistics & KWSB
The primary reasons of the existing water demand and supply gap in the city are following:

- Water losses
- Lack of AMR metering
- Illegal hydrant
- Financial constraint

Hub dam

River Indus

- 650 MGD river
- Indus
- 100 MGD hub Dam
- Total water requirement
- 800-1200 MGD
FINANCIAL LOSSES

Approximately 5 million US$ losses are occurring.

1. Due to water theft in the city, and illegal hydrants
2. Poor billing (domestic consumption in the city is not adequately metered since tariff is collected on the basis of property size instead of volumetric consumption).
3. Ineffective control of GOS on water discharge from Malir and Lyari Rivers
EXPECTED OUTCOMES OF SMART WATER MANAGEMENT TECHNOLOGY ADAPTATION IN KARACHI.

1. It will strengthen institutional capacity and coordination by improving preferred tariff arrangements and help to design equitable and sustainable tariff models.

2. Will help to enhance data quality and access by supporting better decisions and will integrate utility vision.

3. Improved ability to effectively plan and undertake strategic action

4. Improved finances to fulfill service delivery functions on time
Thank you