



TASK FORCE MEMBER OF IWRA

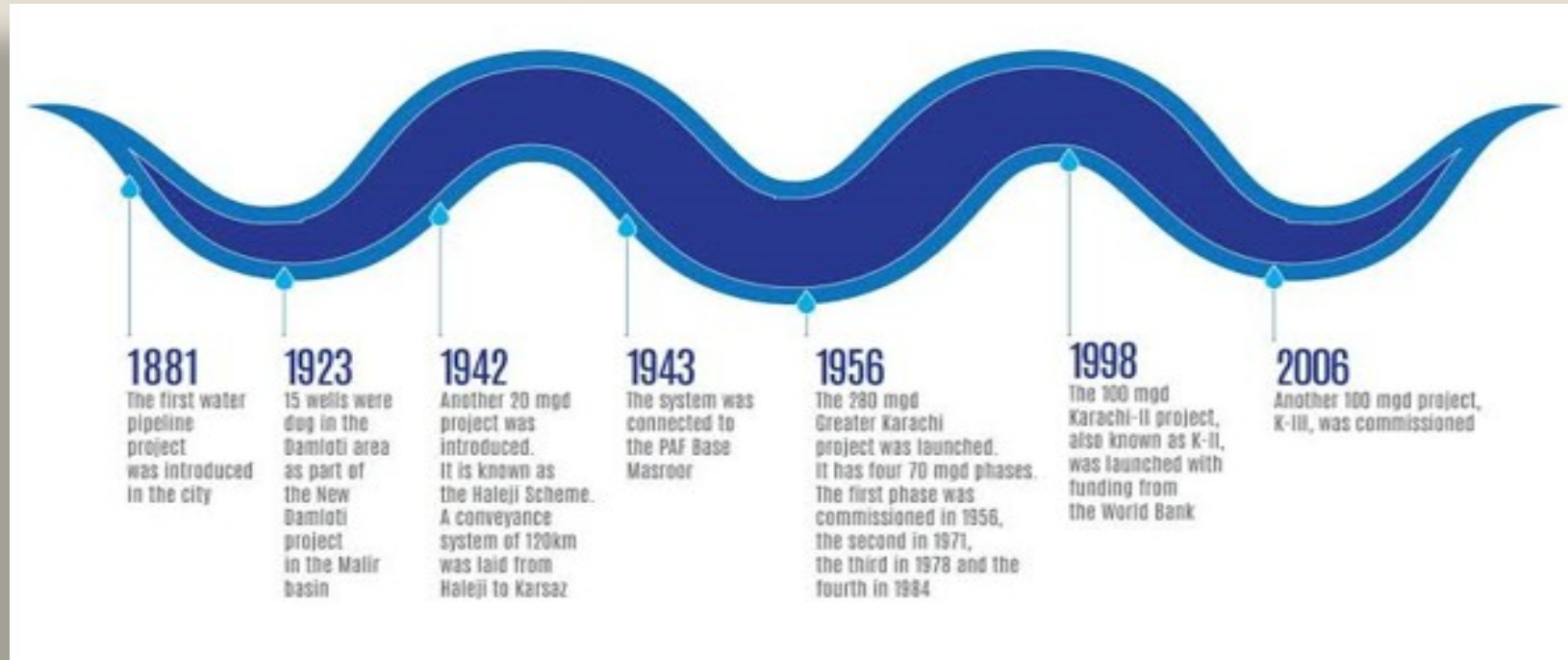
***SYSTEMATIC ANALYSIS OF SMART
WATER METERING AND ITS POTENTIAL
BENEFITS: A CASE STUDY OF KARACHI***

***Nusrat Yaqoob
Ph.D. University Of Karachi
UNESCO-GWYN (Newsletters Committee Chair)***

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.

Water supply project
history of Karachi

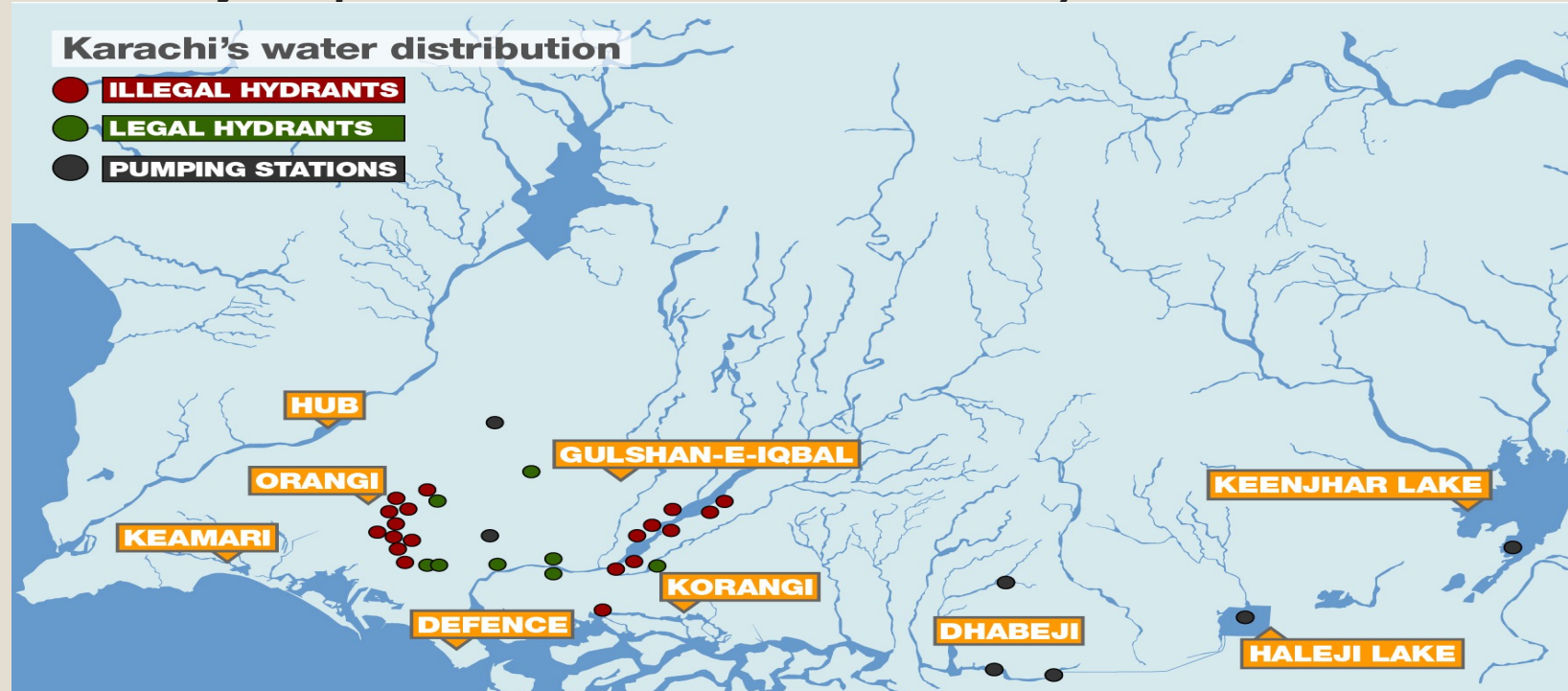


Sources: The News Paper 26 June 2022.

GEO MAP OF KARACHI WATER DISTRIBUTION

Reasons

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.

SYSTEMATIC WATER SUPPLY –DEMAND GAP ANALYSIS FOR KARACHI:

Population pressure

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

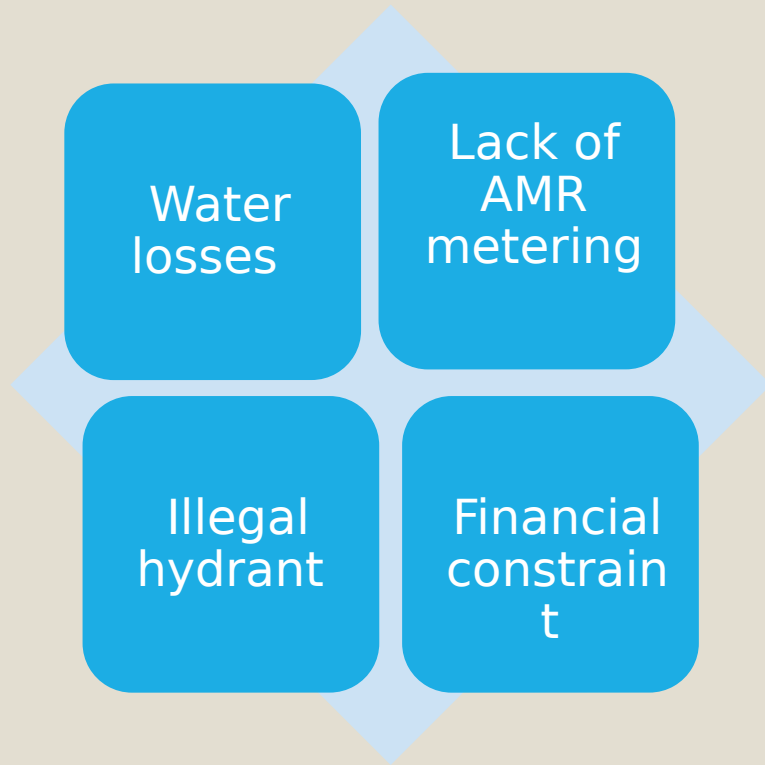
Table: water and supply-demand gap in Karachi

Year	Population (M)	demand (MGD)	supply (MGD)	Gap (MGD)
1998	11.33	567	410	157
2017	14.9	820	650	170

Sources: Sindh bureau of statistics & KWSB

The primary reasons of the existing water demand and supply gap in the city are following

River Indus



Hub dam



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 ADAPTION 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**

