



Bangladesh

Capital city: Dhaka
Inhabitants: 164 Million

INSTITUTIONAL SETTING AND PURPOSE

Several organizations in Bangladesh have established groundwater-level monitoring networks throughout the country, namely: Bangladesh Water Development Board (BWDB), Department of Public Health Engineering (DPHE) and Bangladesh Agricultural Development Corporation (BADC). Barind Multipurpose Authority (BMDA) is a governmental body also in charge of groundwater data collection and monitoring. Amongst them, BWDB is the key organization responsible for monitoring of

both surface-and groundwater resources and implementation of water-related development projects in Bangladesh.

The purpose of BWDB's network is to monitor groundwater storage at the national scale in Bangladesh, primarily for the shallow aquifers, besides providing input for national water policy planning and be part of a national climate change monitoring network.

CHARACTERISTICS OF THE NETWORK

The BWDB network has 1,250 monitoring boreholes throughout the country, or one monitoring well per 120 km². It collects data on groundwater quantity (weekly groundwater levels) and groundwater quality (annual arsenic, salinity, manganese and iron concentrations).

Groundwater level data are collected mainly manually using dippers (groundwater level meters), whereas a few locations are equipped with automatic data loggers.

DPHE has its own network of about 4500 monitoring wells throughout Bangladesh, measuring once a year groundwater levels during the dry season. Readings correspond to the deepest annual groundwater levels in most locations in Bangladesh.

BADC has a network of more than 3000 monitoring wells throughout Bangladesh and published a "groundwater zoning map" for two seasons (at the moment not available online).

BMDA in Rajshahi area has 14,000 deep tube wells (DTWs) for irrigation, and some of them monitor water levels.



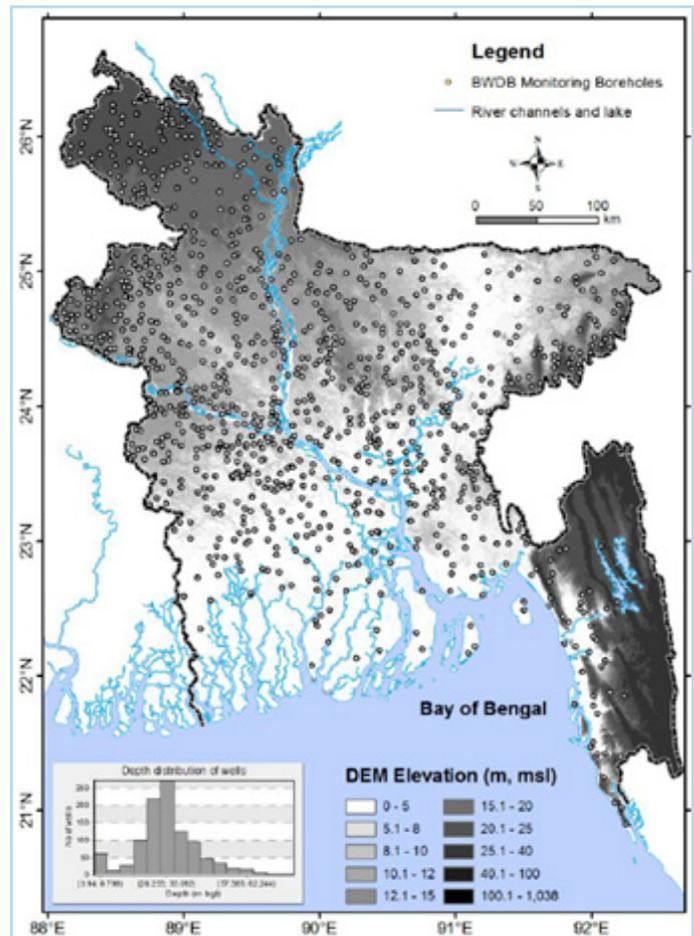
Figure 1 – Dumuria Upazila, Khulna District, Bangladesh, by: Sonia Hoque/REACH

PROCESSING AND DISSEMINATION

Time-series analyses and spatial mapping are conducted by hydrogeologists working at BWDB.

Groundwater observations from BWDB are not publicly available but they can be purchased directly from BWDB. Additionally, groundwater levels from 2016 for 180 points are available on BADC's website.

Figure 2 – Spatial distribution of the BWDB groundwater-level monitoring boreholes in Bangladesh. Source: Shamsudduha, 2013



Sources

- **Bangladesh Agricultural Development Corporation – Groundwater level data** - <http://www.badc.gov.bd/site/page/d931c2f2-c016-4bc5-9483-67ca4bb4ea54/-;>
- **Bangladesh Water Development Board (BWDB)** - <https://www.bwdb.gov.bd;>
- **Feedback from BWDB (indirect)** - received on 16-02-2020;
- **Groundwater zoning map from BADC (not available at the moment)** - <http://gwv.gisapps.net;>
- **Feedback from BWDB (answer to form)** - received in 2019;
- **Shamsudduha, M., 2013** - Groundwater-fed Irrigation and Drinking Water Supply in Bangladesh: Challenges and Opportunities, in: Zahid, A., Hassan, M. Q., Islam, R., Samad, Q.A. (Eds.), Adaptation to Impact of Climate Change on Socio-economic Conditions of Bangladesh. Alumni Association of German Universities in Bangladesh, German Academic Exchange Service (DAAD), Dhaka, pp. 150-169; and
- **SWIBANGLA: Managing salt water intrusion impacts in coastal groundwater systems of Bangladesh.** - Deltares report number: 1207671-000-BGS-0016.