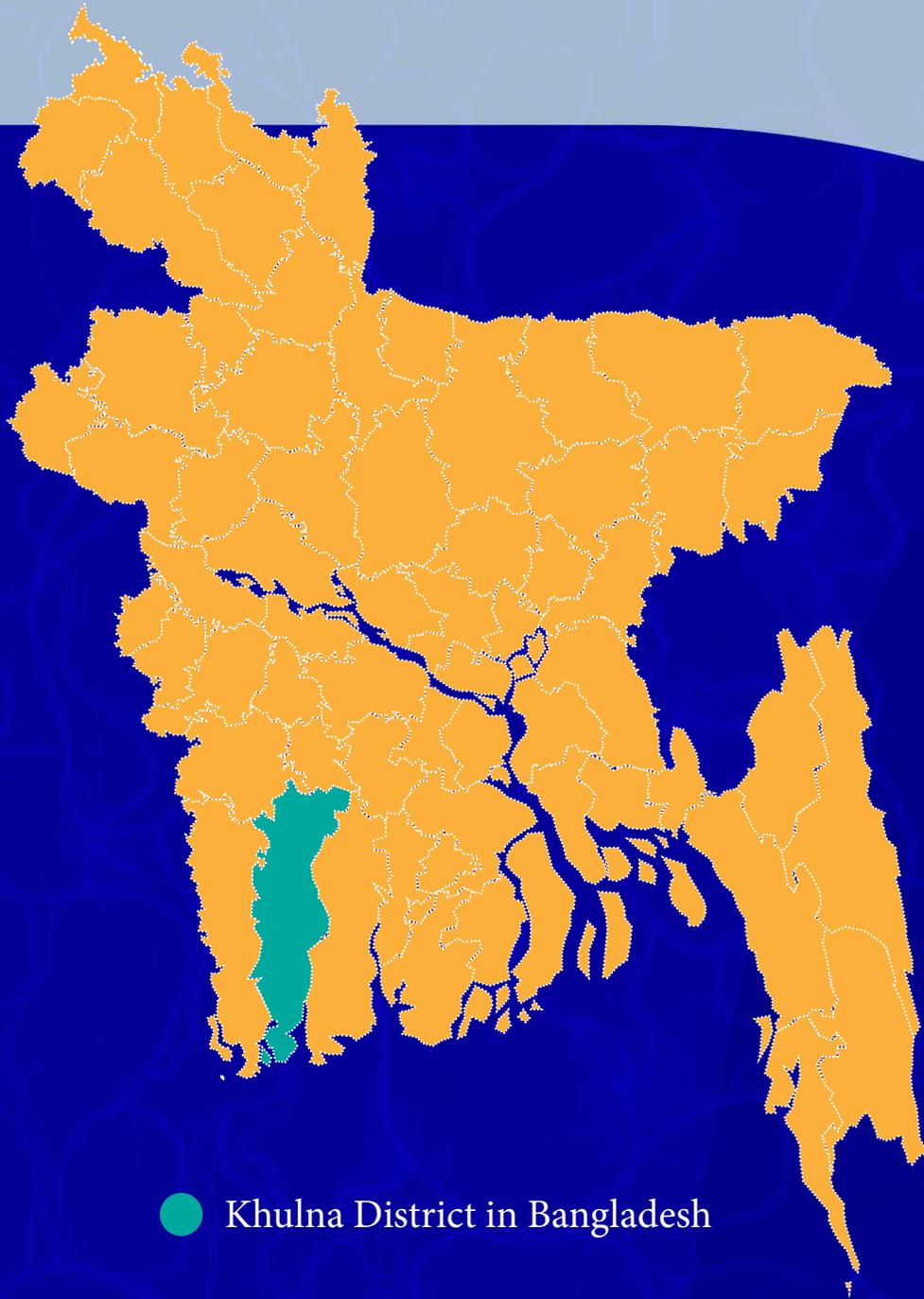




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● Khulna District in Bangladesh

# The Weight of Water in Paikgacha, Khulna District

A photo essay on climate, scarcity, and  
everyday resilience

Paikgacha Upazila in Khulna District



Nestled in the coastal district of Khulna, Paikgacha Upazila is a community defined by both its proximity to water and its struggle for it. Here, where the Shibsha River once flowed with life, rising salinity, arsenic contamination and erratic weather now test the limits of human endurance. This visual journey documents the lives, ingenuity, and quiet resilience of Paikgacha's people, as they adapt to the changing tides of climate and circumstances.

Climate Vulnerability Index of Paikgacha Upazila (Unions and Pourashava)

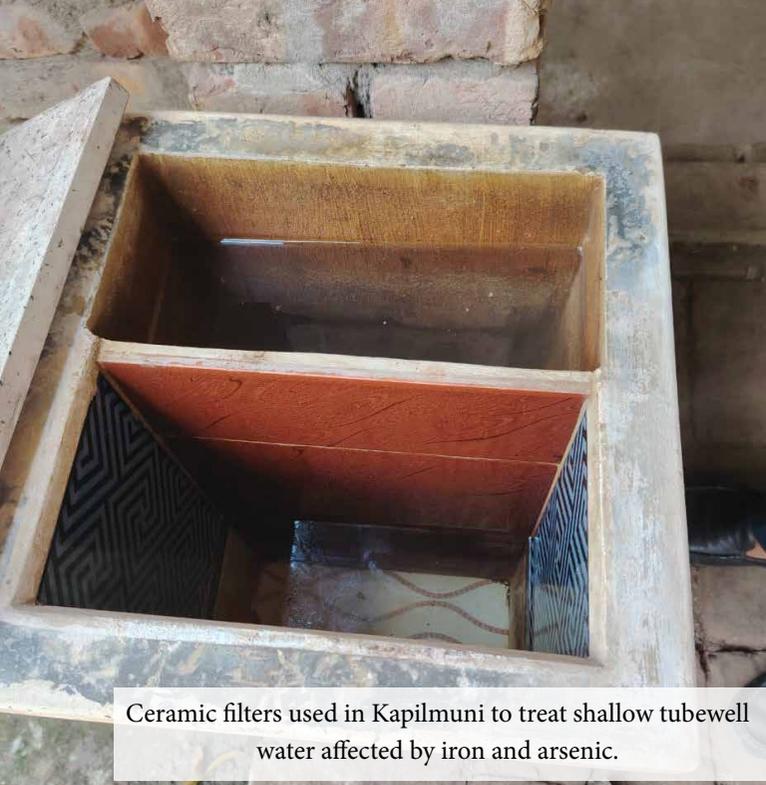


# Landscape and Causes

Paikgacha sits low in Khulna District and is shaped by several rivers, tidal channels and ponds that sustain local life. Over recent decades, many fields have been converted to brackish aquaculture for shrimp and crab, a practice that intentionally draws saline water and raises salt levels in ponds and nearby channels. That change, coupled with storm surges and repeated flooding, has pushed seawater further inland and allowed salinity to seep into shallow groundwater and tubewells. At the same time, disturbed hydrology has mobilized contaminants such as arsenic in some locations. In short: shifting land use, altered flows, and climate-driven floods together explain why freshwater sources are less reliable across the Upazila.



Small ponds in Paikgacha Municipality used for shrimp and crab farming.

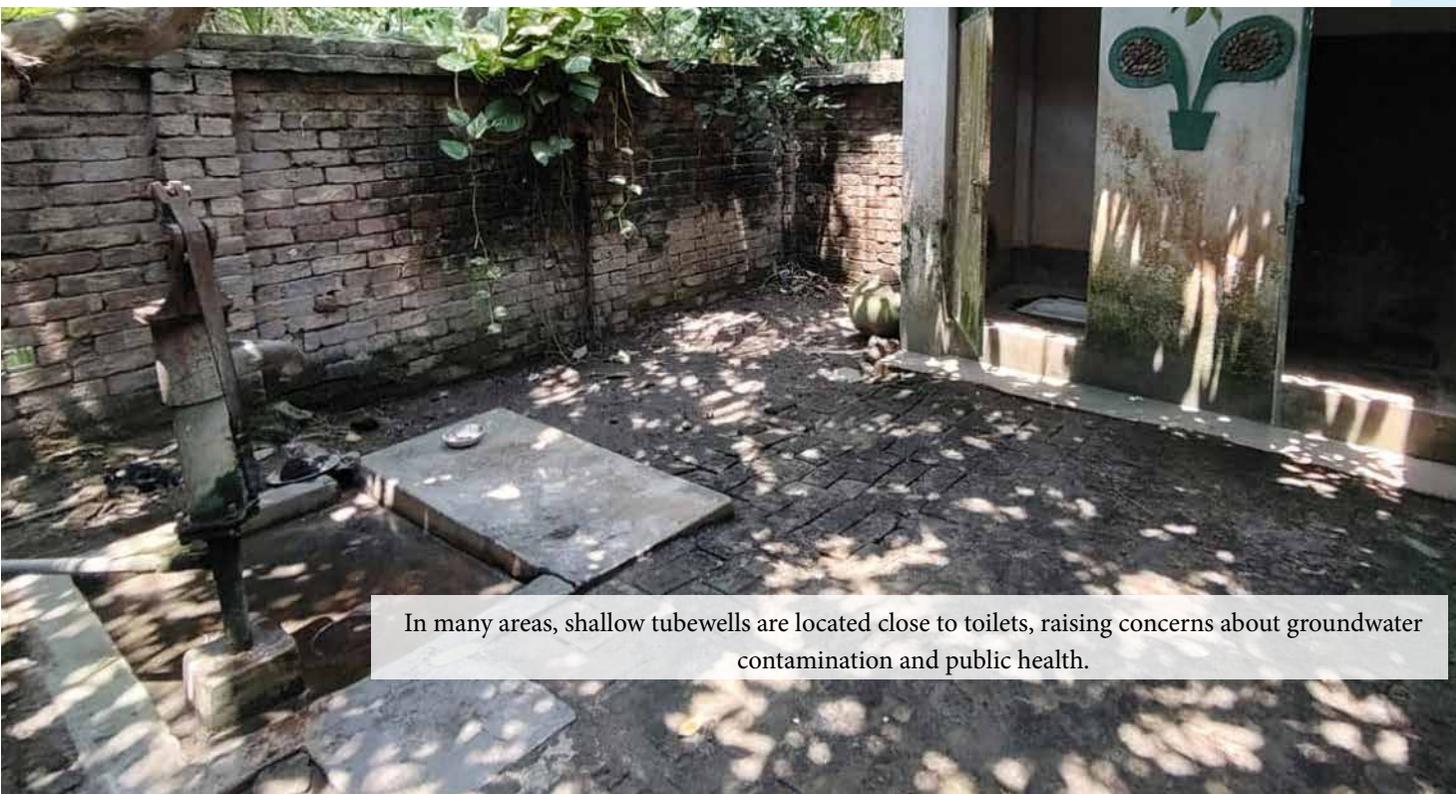


Ceramic filters used in Kapilmuni to treat shallow tubewell water affected by iron and arsenic.

These environmental shifts are not abstract. In Deluti Union and elsewhere, wells run brackish, ponds carry higher salinity or organic contamination, and rainfall – when it arrives, is often the only temporarily safe source. During Cyclone Remal and the season’s floods, latrines and sanitation infrastructure were submerged, forcing families to fetch drinking water by boat and exposing many households to waterborne disease. WaterAid’s baseline shows the scale of the problem locally: over 51.7% of residents lack access to safely managed water sources, 84.5% lack safely managed sanitation, and 82.3% have no basic handwashing facilities.

A local health officer puts it starkly: “About 90% of patients come in with waterborne diseases...standard antibiotics don’t work anymore.”

The result is a daily negotiation: what to drink, where to wash, and which risks to accept when no safe option is readily available.



In many areas, shallow tubewells are located close to toilets, raising concerns about groundwater contamination and public health.

## Where Water Turns Hostile...



A pond in Kapilmuni Union that has fallen out of use as a source of drinking water.

# A River That Once Sustained, Now Withstands

Many of these risks trace back to the slow transformation of one of the region's major rivers, the Shibsha, a branch of which flows through Paikgacha's Municipality.

Once central to the area's landscape and livelihoods, the river now runs shallow, altered by upstream changes, tidal surges, and saline intrusion. Communities that once depended on the river for freshwater now contend with contamination, shrinking water flows, and declining water quality.

Its transformation reflects a wider environmental shift unfolding across the region: a slow, visible erosion of natural systems that once sustained everyday life.



Paikgacha Municipality is located near the Shibsha River. However, due to climate change, the river has now become a dying river.

# Schools and Clinics on the Frontline

As natural water systems falter, the strain moves quickly into public life, especially into schools and health facilities that depend on safe water every day.

Public institutions in Paikgacha operate in the shadow of climate vulnerability. Community clinics bear scars of corrosion and cyclone damage, their rainwater harvesting systems doubling as the only dependable water source for months.

In schools, WASH blocks built with good intentions now tell a mixed story – some offer gender-separated toilets and handwashing facilities, while others overlook accessibility for students with disabilities or menstrual hygiene needs.

These spaces remind us that infrastructure, though essential, is not enough – it must be resilient, inclusive, and locally maintained to serve those most at risk.



A community clinic building in Deluti Union



Scars of corrosion on the walls of Community clinics

# Adaptation in Every Drop

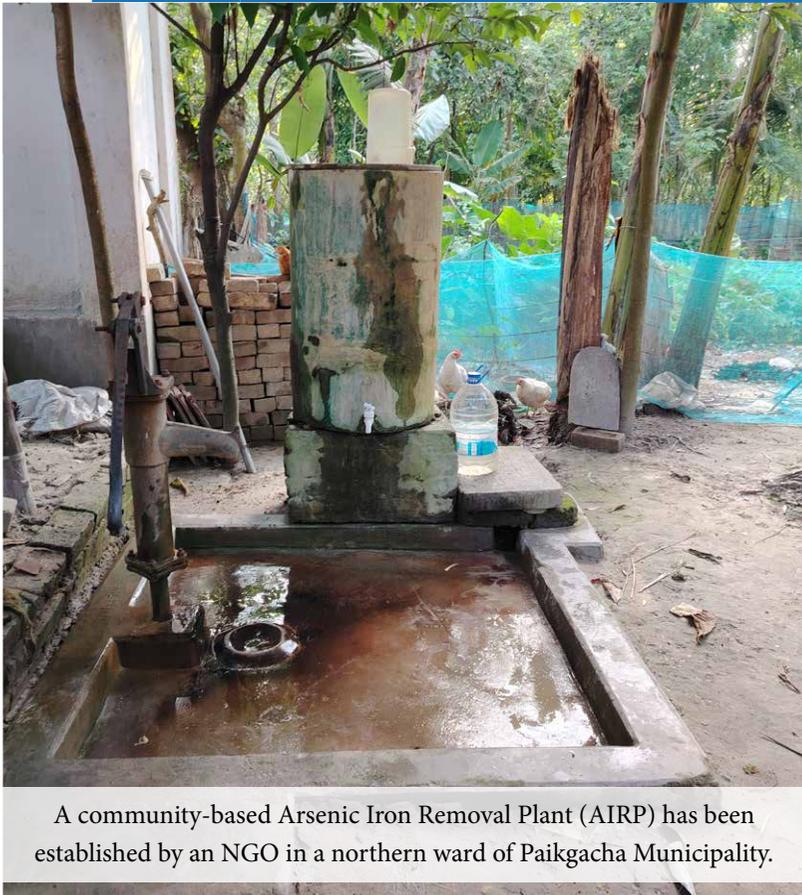
Across Paikgacha, families are finding ways to adapt, often with limited resources. In a northern ward of Paikgacha Municipality, a community-based Arsenic Iron Removal Plant (AIRP) serves the residents who collectively share the maintenance costs.

Further south, where saline water corrodes pipelines and rust stains every surface, Rainwater Harvesting Systems (RWHS) have become lifelines. Some families receive tanks through NGO programs, others built their own with salvaged materials – proof that resilience often starts with resourcefulness.

Yet these solutions remain fragile. Concrete tanks degrade quickly in saline air, and systems without proper filtration carry health risks. Still, each functioning water system represents something larger: a measure of control, dignity, and persistence in uncertain conditions.



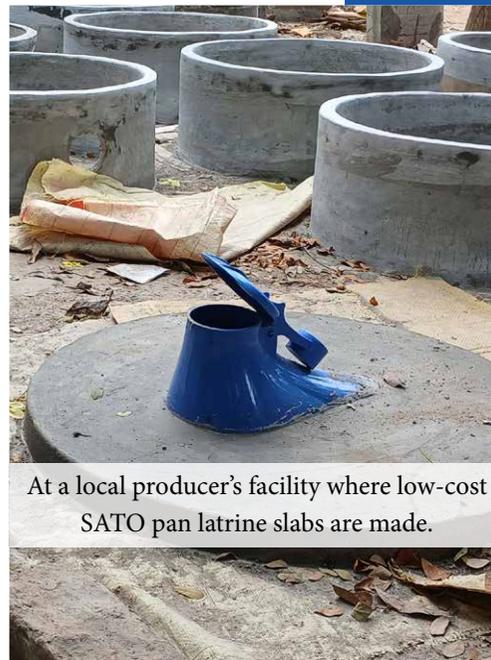
At the DPHE Paikgacha office, where teams plan and deliver community-level WASH systems and school sanitation facilities.



A community-based Arsenic Iron Removal Plant (AIRP) has been established by an NGO in a northern ward of Paikgacha Municipality.



Rainwater harvesting systems (RWHS) are widely used in Paikgacha, especially in the south where groundwater is affected by iron and salinity.



At a local producer's facility where low-cost SATO pan latrine slabs are made.

# Community Efforts and Quiet Leadership

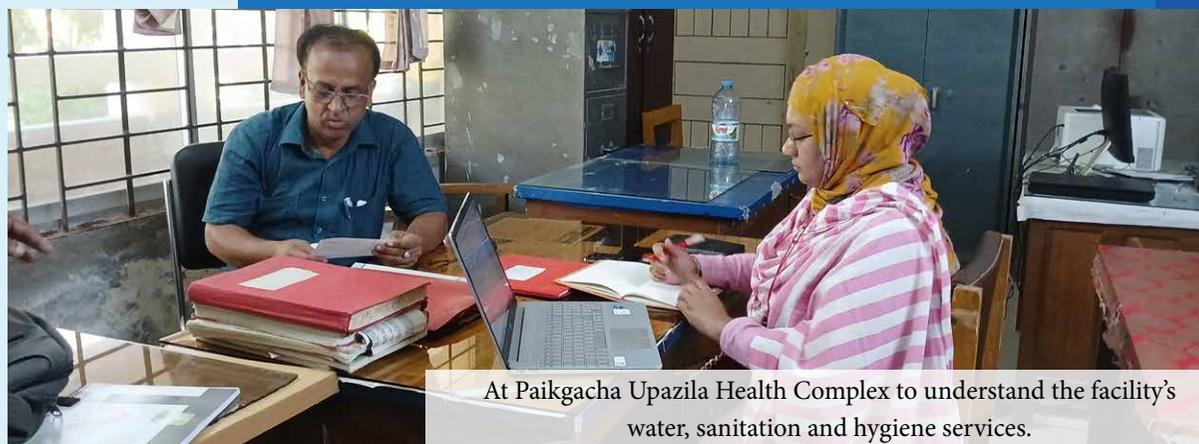
Beyond households, collective efforts led by local organizations and public agencies are gradually reshaping the WASH landscape in Paikgacha.

Organizations such as WaterAid Bangladesh, DPHE, NABOLOK, BRAC, and Paikgacha Municipality work alongside to strengthen WASH infrastructure – from community toilets in low-income neighbourhoods to inclusive public toilets managed by persons with disabilities.

These efforts demonstrate that progress in Paikgacha is not driven by single interventions, but by partnerships rooted in local systems and shared responsibility.



Athena's representative speaks with primary school teachers to understand the school's drinking water, sanitation and hygiene facilities



At Paikgacha Upazila Health Complex to understand the facility's water, sanitation and hygiene services.



At a local sanitary shop to understand WASH products in demand and their prices.

# Holding Ground Amid Uncertainty

The environmental pressures shaping Paikgacha are deep and persistent, yet, amid these challenges, the spirit of the community endures.

From women managing household rainwater systems to local NGOs restoring water points and promoting safe sanitation, each story captured in this photo essay is a portrait of perseverance, a reminder that resilience is not just surviving the storm but rebuilding with dignity.



A Rainwater Harvesting System (RWHS) was installed at a household in Paikgacha Municipality by NABOLOK, with support from WaterAid Bangladesh. The system was co-financed by the household and NABOLOK.



# Linking Local Realities to Larger WASH Efforts

The water challenges shaping life in Paikgacha are echoed across small towns and climate-vulnerable settlements throughout South Asia. What makes Paikgacha stand out is not only the intensity of risk, but the everyday ways in which communities respond, households investing in rainwater systems, neighborhoods sharing treatment plants, and schools and clinics adapting under pressure.

These lived realities form the foundation of how Athena Infonomics and WaterAid Bangladesh work together: grounding research, financing strategies, and planning tools in what communities actually experience.

Through sanitation financing studies, city-level diagnostic assessments, and costed pathways to universal WASH access, Athena supports WaterAid and other partners in strengthening climate-resilient water and sanitation systems across Bangladesh and the region. The work connects local evidence to broader policy, planning, and capacity-building efforts, ensuring that investments are not only technically sound, but also affordable, inclusive, and sustainable.

The experiences from Paikgacha contribute to this larger body of work, showing when data meets daily life, investments in water become investments in health, dignity and the capacity to withstand the tides.



# Together towards water security.

*We extend our sincere thanks to WaterAid Bangladesh for the opportunity to engage with their dedicated teams in Paikgacha and learn from their work on the ground.*



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