



WASH Sector
Cox's Bazar

ASSESSMENT REPORT

WASH Systems and Sustainability Assessment

Final consolidated assessment for all 33
Rohingya camps and nearby host/urban
interfaces in Cox's Bazar, Bangladesh



Water
Supply



Sanitation
& FSM



Solid Waste
& Drainage



Hygiene
& MHM



WASH-related
Public Health



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Document Control

Table 1. Document control and scope

Item	Detail
Document title	WASH Systems and Sustainability Assessment - Working report
Geographic scope	All 33 Rohingya camps in Cox's Bazar and selected nearby host/urban interfaces, including Teknaf and Ukhiya-linked sites
Secondary evidence base	Water Supply, Sanitation & FSM, Solid Waste & Drainage, Hygiene Promotion & Behavior Change and Public Health/AWD desk reviews - Link here
Field evidence component	Field Data Verification: 192 valid household-level semi-structured interviews / household-level KIIs and 12 FGDs in selected camp and host-interface sites

Reading Note

1. **Reference:** Source documents are desk review reports, and each desk review retains its own underlying source list as referenced in the References section.
2. **Data triangulation:** This report is an analysis and assessment, not an all-camp performance audit. It draws on three evidence streams:
 - The Consolidated Inception Report, which establishes the analytical frame and systems lens;
 - Five technical desk reviews/evidence streams - four WASH sub-sector reviews plus one cross-cutting WASH-related public-health/AWD review - which provide evidence on scale, service conditions, operational pressures, public-health risk and the camp-host interface; and
 - Field Data Verification, which tests 38 desk-review claims through selected household interviews and FGDs.
3. **Field verification representation:**

Field verification sites were selected purposively to compare the desk-review picture with peoples lived experience in locations where repeated or distinct WASH risks had already been identified not to statistically represent or validate conditions across all 33 camps. Camp 05 and Camp 27 were selected because they recurred across WASH and public-health risk screens; KRC and NRC added different camp operating contexts; and Hnila, Whykong and Palongkhali/Ukhiya brought in important camp–host interfaces, seasonal source pressure, drainage conditions and service-access differences. The field verification component therefore intentionally included priority and potentially more vulnerable settings so that it could examine whether key concerns were visible on the ground, understand the context behind them and flag issues requiring wider or more technical follow-up. Therefore, the term “Field Data Verification,” should be understood as a purposive field comparison, not as response-wide validation.

The desk reviews and the field comparison operate at different scales and answer different questions. The desk reviews bring together broader technical, operational and service evidence covering all 33 camps and nearby host-community areas, while the “Field Data Verification” describe what respondents experienced in the selected locations. Percentages from the field component therefore apply only to that purposive group and should not be compared directly with response-wide surveys, routine monitoring or programme data unless the questions, recall periods, season, geography and denominators are sufficiently aligned. Where the two evidence streams point in the same direction, the field findings strengthen confidence that the issue is real and meaningful in the selected contexts. Where they differ, the difference should be interpreted through local conditions and methodology rather than used to conclude immediately that one source is incorrect. The two reports can therefore stand alongside each other: the desk review provides the broader systems picture, while the field comparison shows how priority and potentially more vulnerable locations experience those systems in practice. Response-wide prevalence estimates, camp rankings and technical or facility-performance conclusions still require representative sampling, disaggregated analysis and targeted engineering, operational or governance verification.

Where the three streams converge (Workshop inputs on “Consolidated inception report”, the five technical desk reviews/evidence streams, and Field Data Verification), the report presents a triangulated finding. Where field data cannot test technical, financial, epidemiological or institutional claims, the report states the gap and identifies the verification needed.

The report distinguishes between service evidence and facility evidence. Household and FGD findings are strong for lived experience, coping, safe access, complaint response, waste collection and drainage conditions. They are not substitutes for water-production-recording checks, audited partner O&M ledgers or governance-focused KIIs. This distinction is central to the recommendations.

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Abbreviations and Key Terms

Table 3. Abbreviations used in the report

Abbreviation	Meaning	Abbreviation	Meaning
AFA	Area Focal Agency	AWD	Acute Watery Diarrhoea
CFP	Camp Focal Point	CHV/CHW	Community Hygiene Volunteer / Community Health Worker
CiC	Camp-in-Charge	COD	Chemical Oxygen Demand
DPHE	Department of Public Health Engineering	EC/TDS	Electrical Conductivity / Total Dissolved Solids
EWARS	Early Warning, Alert and Response System	FRC	Free Residual Chlorine
FSM	Faecal Sludge Management	FSL	Faecal Sludge Laboratory
FSTP	Faecal Sludge Treatment Plant	HWF	Handwashing Facility
IFSTN	Integrated Faecal Sludge Treatment Network / transfer-node approach	JART	Joint Assessment and Response Team
MHM	Menstrual Hygiene Management	MRF	Material Recovery Facility
O&M	Operations and Maintenance	TCG	Technical Consultation Group
RRRC	Refugee Relief and Repatriation Commissioner	SCCCM/SMSD	Shelter, Camp Coordination and Camp Management / Site Management and Site Development
SWM	Solid Waste Management	WASH	Water, Sanitation and Hygiene
Water TWG	Water Technical Working Group		

In this report, "all-camp" refers to the full analytical frame of 33 Rohingya camps. It does not imply that the field component physically inspected every camp or every facility. "Field Data Verification" refers to the single consolidated field evidence component described in Section 3.2. "WASH partner" means an implementing organisation; "technical operator" means an organisation or staff member directly operating a network, plant or facility.

Executive Summary

This working assessment report consolidates three evidence streams: the WASH Systems and Sustainability Assessment Consolidated Inception Report; five technical desk reviews/evidence streams - four WASH sub-sector reviews covering water supply, sanitation/FSM, solid waste management and hygiene promotion, plus one cross-cutting WASH-related public-health/AWD review; and Field Data Verification. The inception report provides the principal framing, the desk reviews provide the technical and documentary evidence base, and Field Data Verification tests selected claims against household and focus-group experience in priority camp and host-interface sites.

Across the four WASH sub-sectors and the cross-cutting public-health/AWD review, the same systems diagnosis emerges. Cox's Bazar has significant WASH infrastructure and service systems, but this scale can mask fragility. The principal challenge is no longer first-round infrastructure provision alone. It is whether existing systems can continue to deliver safe, reliable and inclusive services under ageing infrastructure, seasonal stress, difficult terrain, declining funding and changing coordination arrangements. Persistent weaknesses sit in downstream operational and treatment control and at service interfaces: chlorination and water production recording; containment-to-treatment performance; waste, drainage-related risk and residual-disposal continuity; soap and communal handwashing readiness at the point of use; MHM adequacy and safe access; complaint closure; and the link between disease alerts and verified WASH corrective action.

The available field evidence supports the user-facing direction of the desk reviews. The June 2026 Field Data Verification records 192 valid household interviews and 12 FGDs covering selected camp and host-interface locations. Of 38 desk-review claims assessed in the controlling validation matrix, 19 were supported, 14 partially supported and 5 required further investigation; none was contradicted or invalidated. The strongest confirmation concerns uneven water sufficiency and source switching, point-of-use soap and communal handwashing-facility gaps, MHM adequacy, unsafe night access, weak complaint closure, irregular waste collection, mixed waste, blocked drains and stagnant water. Physical drainage maintenance and cleaning remain under SCCCM/SMSD leadership; the field evidence is used here to identify drainage-related WASH and public-health risks.

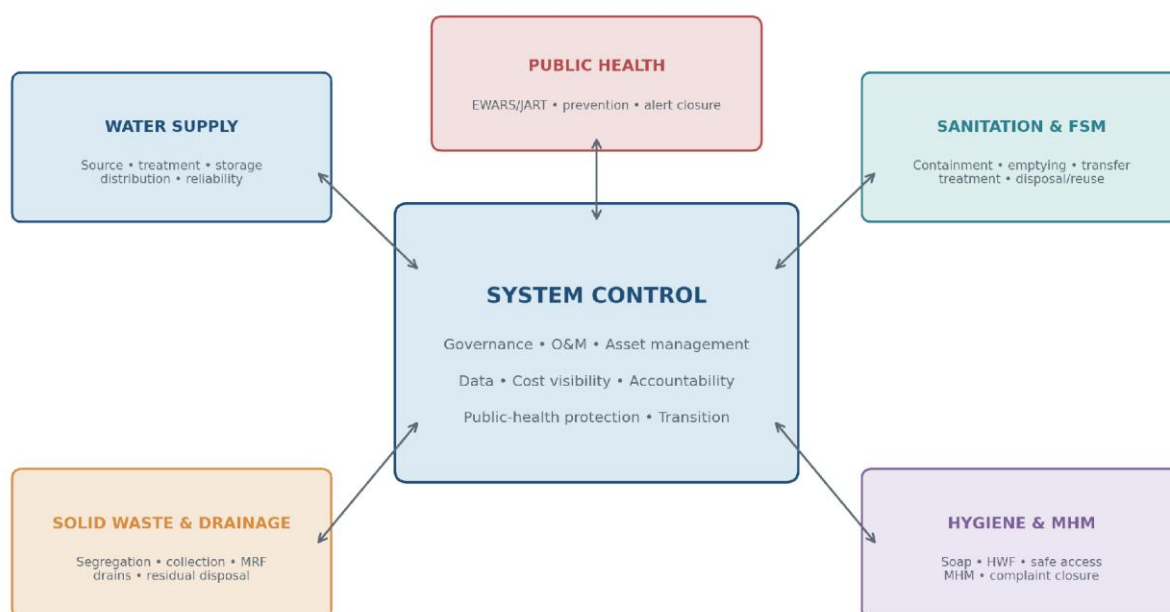
The same field component cannot confirm technical or institutional performance across the full response. It did not include a comprehensive site-level facility audit, plant-by-plant verification, full water-quality testing, groundwater abstraction review, MRF material-flow audit, route-time and cost study, or a programme of governance-focused KIIs. Governance-focused KIIs are targeted institutional interviews on mandates, infrastructure ownership, O&M, data management, corrective-action authority, financing and transition. The field data should therefore be interpreted as Field Data Verification, not a complete facility inventory. Facility condition, system functionality, service ratings, treatment plant performance, cost-efficiency and institutional roles remain subject to targeted technical and governance verification.

Table 4. Consolidated assessment at a glance

Sub-sector	What is holding	Main sustainability and public-health concern	Field Data Verification	Priority decision
Water supply	Significant networked and point-source water-supply infrastructure is established across the camps, although specific gaps and under-standard systems remain.	Uneven quantity and continuity; weak chlorination and measurement control; dry-season and source-security stress in Teknaf.	Water source switching, queues, insufficient or only sometimes sufficient water, and timing concerns were repeatedly reported.	All-camp water-system verification using a harmonised Five-Star or equivalent rating, with water production recording, functional flow-meter, FRC, source, energy and O&M checks.

Sub-sector	What is holding	Main sustainability and public-health concern	Field Data Verification	Priority decision
Sanitation & FSM	Sanitation access remains broadly adequate and reported functionality remains high.	Treatment compliance, desludging intensity, plant/route performance, technical-operator safety and whole-chain cost are weakly controlled.	Safety, avoidance, overflow and service variation are visible, but household/FGD data cannot test plant performance.	Plant-level and route-level audits linked to DPHE/FSL compliance and camp-specific service models.
Solid waste & drainage	An MRF-centred service architecture and collection chain are in place.	Irregular collection, mixed waste, drainage blockages, residual-disposal dependency and divided responsibilities.	Missed collection, incomplete segregation, blocked drains and stagnant water were strongly confirmed.	Joint SCCCM/SMSD-WASH drainage-risk and waste-management plans, MRF material-flow audits and residual-disposal continuity plans.
Hygiene & MHM	Knowledge and promotion structures are well established. Available desk-review evidence suggests that product acceptability is generally less constraining than adequacy, refill frequency, affordability, privacy and safe access; this should not be generalised across all products or population groups without disaggregated follow-up.	Soap and water at HWFs, MHM adequacy and top-up capacity, privacy, safe access and complaint closure are uneven.	Point-of-use soap/HWF gaps, MHM constraints, unsafe night access and facility avoidance were strongly confirmed.	Treat enabling conditions and complaint closure as service KPIs; protect minimum soap/MHM and safe-access packages.
Public health	EWARS, JART and health surveillance provide a strong detection platform.	Broader diarrhoeal risk remains active; WASH control failures are not consistently linked to verified alert closure.	The service-environment risk model is supported; epidemiological and alert-closure claims still require record review.	One shared protocol linking existing EWARS, JART and WASH records to named corrective actions and verified closure.

Sources: Consolidated Inception Report [1]; sub-sector desk reviews [2]-[6]; Field Data Verification [7].



Sustainability depends on the whole service chain and on whether evidence is converted into timely corrective action.

Figure 1. Integrated WASH systems and sustainability framework used in the final assessment.
Consolidated judgement

Functioning, but not yet sustainably controlled

The overall WASH response can still be stabilised, but it should be managed as one operating system and one public health protection system. In this report, "one operating system" means a harmonised management and accountability framework with common service standards, minimum data definitions, coordinated performance review, named corrective actions and shared closure rules. It does not mean one implementing agency, one technical operator or a merger of existing institutional mandates. The evidence does not support a simple expansion-only strategy or an immediate handover strategy.

The most urgent shift is from counting facilities and activities to controlling service performance: verified facilities and service chains, clear WASH partners and technical operators, water production recording, reliable chlorination, scheduled maintenance, treatment compliance, drainage-related waste and risk continuity, safe access, complaint closure, cost visibility and alert-to-action follow-through.

Two enabling actions are critical:

- An all-camp WASH facility inventory and Water Supply Five-Star or equivalent system rating; and
- A WASH Systems and Sustainability Technical Consultation Group (TCG) that brings together the WASH Sector, DPHE/FSL, RRR/CiCs, AFAs, WASH partners, CFPs, relevant local authorities and technical operators.

Top Five Overall WASH Insights

1. The existing WASH infrastructure is significant, but scale is masking fragility. Important location-specific gaps remain, some infrastructure is ageing, and under-standard systems such as selected mini-networks require improvement. Sustainability now depends more on O&M discipline, improvement planning, process control, facility records, technical-operator capacity and governance than on simple infrastructure expansion.
2. User-facing access and service availability are generally stronger than downstream operational and treatment control. Water coverage is broad but quantity and chlorination are uneven; sanitation access remains broadly adequate but treatment compliance is weak; the SWM architecture exists but residual handling and drainage-related coordination are inconsistent; hygiene knowledge is

established but the enabling environment is unreliable; and surveillance is strong, while closure of WASH control failures remains incomplete.

3. Field Data Verification confirms the user-facing service findings and shows that households compensate for system gaps. Source switching, queuing, avoiding facilities, borrowing or purchasing hygiene materials, experiencing missed waste-collection events and coping with stagnant water can make a system appear more functional than it is from facility or output counts alone.
4. Camp conditions differ sharply. One technical or management model will not fit all 33 camps, and Teknaf requires a distinct multi-source, dry-season and camp-host operating approach. Camp archetypes and full-service chains should guide rehabilitation, rationalisation and financing decisions.
5. Governance and data are now technical issues. Limited governance-focused KIIs, incomplete partner cost ledgers, weak facility verification and inconsistent closure records prevent reliable decisions on ownership, handover, cost recovery, financing and transition. A structured WASH Systems and Sustainability Technical Consultation Group (TCG) and a common, proportionate evidence framework are prerequisites for sustainable change.

Priority Recommendations by Horizon

Table 5. Priority recommendations by implementation horizon

Horizon	Priority direction	Primary lead	Why it matters now
Immediate agreement and safeguards (0-6 months)	Establish the WASH Systems and Sustainability Technical Consultation Group (TCG); complete targeted governance-focused KIIs; protect a minimum package of essential WASH services and public-health protection functions; and agree the all-camp facility-inventory and rating methodology.	WASH Sector; RRRC/CiCs; DPHE/FSL; AFAs/WASH partners	Creates the decision platform, closes the principal governance gap and prevents silent erosion of essential services.
Priority-camp rollout (6-18 months)	Roll out the WASH facility inventory and Water Supply Five-Star/equivalent assessment in priority areas; complete targeted plant, route, MRF, water-quality and SCCCM/SMSD-led drainage audits; and establish partner-level O&M/cost records with a limited common Sector summary.	TCG; DPHE/FSL; WASH partners; technical operators; SCCCM/SMSD; relevant local authorities	Provides the verified asset and performance evidence required for rehabilitation, budgeting and accountability.
Medium term (12-24 months)	Prepare camp-wise sustainability and rehabilitation plans; strengthen partner and technical-operator capacity; rationalise weak or duplicated systems where evidence supports it; and implement operationally linked Teknaf and camp-host interface actions.	WASH Sector; RRRC; DPHE; AFAs/WASH partners; donors; relevant local authorities	Converts assessment findings into prioritised investments and more efficient service models.
Long term (24+ months)	Institutionalise facility management, annual or risk-based re-rating, performance-based O&M, staged transition and authority-linked oversight; explore equitable financing or cost-sharing only where policy, affordability and protection analysis support it.	RRRC; DPHE; municipalities; WASH Sector; development partners	Builds a durable governance and financing model without assuming premature handover or shifting unaffordable costs to users.

1. Background & Context

1.1 Response context and problem statement

After more than eight years of response, WASH services in Cox's Bazar operate as long-term, high-density humanitarian service systems rather than a short-term emergency arrangement. The Consolidated Inception Report describes the same structural pressures across four WASH sub-sectors and one cross-cutting public-health/AWD evidence stream: ageing infrastructure, difficult terrain, repeated monsoon exposure, groundwater and environmental stress, funding compression, fragmented operational arrangements and increasing pressure to define realistic transition pathways. The technical desk reviews provide different views of one common problem: keeping a very large service system reliable, safe, inclusive and affordable over time.

The challenge is not simply that some facilities are missing. Water networks, production boreholes, reservoirs, tapstands, latrines, bathing facilities, FSTPs, MRFs, collection routes, drains, hygiene-support structures and health-surveillance mechanisms already exist at significant scale. Service failure is more likely to appear through accumulated operational weakness: absent or unused water production records and flow meters; inconsistent chlorination; pits filling more quickly than expected; treatment plants operating without meeting quality standards; mixed waste and blocked drains; communal handwashing facilities without water or soap; communal facilities avoided at night; and complaints or health alerts that do not lead to verified closure.

These weaknesses reinforce one another. A water outage reduces handwashing and MHM options. Unsafe access changes when and whether women and girls use sanitation and bathing facilities. Waste in drains increases flooding, odour, vector breeding and contact with contaminated water. Poor FSM treatment undermines environmental protection even when latrines remain open. Surveillance can identify risk, but it cannot compensate for unclosed WASH control failures. This is why the final assessment uses a systems lens rather than treating each sub-sector as a separate project portfolio. And as the JRP budget continues to contract, practical contingency planning will be essential to keep the critical WASH services that families rely on every day, which includes safe water, sanitation and FSM, waste collection, soap and outbreak-prevention measures—running safely if further funding cuts occur.

1.2 Rationale for a consolidated overall WASH systems and sustainability assessment

The rationale for a consolidated assessment is practical. Decisions about rehabilitation, rationalisation, minimum service levels, technical-operator capacity, cost, transition and public-authority oversight cannot be made reliably from isolated sub-sector indicators. A system can report high functionality while carrying hidden cost, treatment or safety problems. Conversely, user coping can maintain apparent access even where formal service output is weak. The Consolidated Assessment Report therefore framed sustainability as the interaction of assets, service levels, full-chain performance, O&M, data, governance, equity and public-health protection.

The final assessment adds Field Data Verification to that frame. It tests whether the desk-review concerns are visible in household and community experience and where they remain unverified. This distinction matters for decision-making. User evidence can establish that water is insufficient or unpredictable, that soap is missing at the point of use, or that a drain is repeatedly blocked. It cannot establish the safe yield of a borehole, the calibration of a dosing pump, the COD compliance of an FSTP, the mass balance of an MRF or the institutional readiness for service handover. A consolidated assessment allows these evidence types to be read together without confusing them.

A consolidated approach is also necessary because the camps and nearby host communities share water sources, environmental pathways, markets, disposal routes, public-health risks and public institutions. Teknaf is the clearest example: seasonal water stress, source diversity, salinity risk, sanitation gaps, municipal interfaces and host-community concerns converge in the same geography. Camp-only optimisation would therefore leave important risks and opportunities outside the analysis.

1.3 Intended use of this consolidated desk review

This assessment report is intended to support decisions by the WASH Sector, government counterparts, RRRC and camp leadership, municipalities, AFAs and WASH partners, operators, donors and project partners. It should be used to:

- ✓ establish a shared, evidence-bound judgement on the current sustainability of overall WASH systems;
- ✓ identify which findings are triangulated, which are only partially verified, and which require a different evidence stream;
- ✓ protect minimum public-health and service functions while funding and operational models are reviewed;
- ✓ prioritise the all-camp facility inventory, water-system rating, targeted technical audits and governance consultations;
- ✓ guide camp-wise rehabilitation, O&M, capacity, cost and transition planning; and
- ✓ provide a basis for donor dialogue, concept development and staged authority-linked oversight without assuming immediate handover.

The report is not a substitute for engineering design, regulatory approval, environmental assessment, tariff or affordability analysis, or asset-by-asset due diligence. Capital, service-model, financing and handover decisions should be taken only after the relevant technical and governance evidence has been verified.

2. Objectives & Review Questions

The overall objective is to provide a consolidated, evidence-based final assessment of the sustainability, performance, risks, operational pressures, governance and WASH-related public-health vulnerability of systems serving the 33 Rohingya camps and nearby host communities in Cox's Bazar.

Table 6. Final assessment objectives and review questions

Review question	How the final assessment addresses it
What is the current overall condition of WASH systems and services?	Combines the inception narrative, sub-sector evidence and Field Data Verification to distinguish system scale, service continuity, user experience and unresolved technical condition.
Which issues most threaten sustainability and public-health protection?	Assesses source reliability, treatment and distribution, the FSM chain, SWM/drainage continuity, hygiene enabling conditions, safe access and surveillance-to-action closure.
Where do operational, financial and institutional pressures concentrate?	Reviews recurrent O&M drivers, missing partner cost ledgers, WASH-partner and technical-operator responsibilities, fragmented roles, complaint closure and the limits of current governance evidence. Detailed programme records remain a partner responsibility; the Sector requires only common definitions, essential KPIs, minimum facility-registry fields and consolidated risks.
How do conditions differ by camp archetype and geography?	Uses all-camp desk screens, selected field verification, Teknaf/Ukhiya differentiation and host-interface analysis without constructing a false composite ranking.
What evidence is strong enough for immediate action?	Identifies triangulated no-regrets measures that protect service reliability, public health, safety and accountability.
What must be verified before investment, rationalisation, financing or transition decisions?	Specifies the all-camp inventory, Five-Star/equivalent water rating, plant/route/MRF audits, cost capture, source monitoring and governance KIs required.

3. Methodology for the Consolidated Desk Review

3.1 Desk review approach

The assessment report retains the cross-report analytical method set out in the Consolidated Inception Report. It does not reopen every underlying dataset or create a new composite severity score. Instead, it uses the inception report as the organising frame, extracts the principal findings, risk signals, camp screens and recommendations from each sub-sector desk review, and then assesses how the Field Data Verification component confirms, qualifies or leaves them unresolved.

Evidence was read through four linked lenses. The service-chain lens follows water from source to user, sanitation from containment to treatment/disposal, waste from generation to final disposal, and hygiene from supplies and infrastructure to actual practice. The sustainability lens considers O&M, renewal, technical-operator capacity, energy, consumables, cost visibility and climate or environmental exposure. The governance lens considers role clarity, decision rights, asset ownership, reporting, complaint closure and transition. The public-health lens considers how water quantity and quality, sanitation, waste, drainage, soap, safe access and surveillance interact to prevent or amplify disease risk.

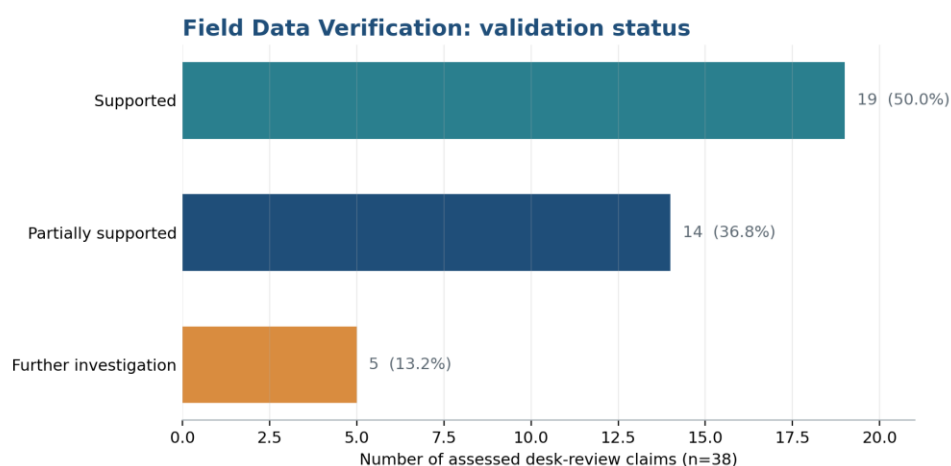
Triangulation was applied at the level of major findings. A finding is described as triangulated where the inception report and relevant desk review point in the same direction and the field component confirms the lived-service or enabling-environment aspect. It is described as partially triangulated where field evidence supports the direction but cannot verify the full technical, geographic or institutional claim. It is unresolved where the claim depends on measurements, logs, cost records or KIIs that were not included in the field package.

3.2 Field Data Verification

All field-level information collected under the assignment is treated as one consolidated component: Field Data Verification. It is not presented as multiple independent field studies. The component comprises 192 valid household-level semi-structured interviews / household-level KIIs and 12 FGDs with 116 reported participants. Household interviews were undertaken between 26 April and 2 May 2026; FGDs were undertaken between 28 April and 5 May 2026. The household sample included 118 camp interviews and 74 host-interface interviews across Camp 05, Camp 27, Kutupalong Registered Camp (KRC), Nayapara Registered Camp (NRC), Hnila, Whykong and Palongkhali/Ukhiya, as represented in the field files.

The household tool covered water sufficiency and source switching, service predictability, soap and communal handwashing-facility readiness, MHM adequacy and top-up, WASH facility use and safe access, complaints, waste collection, segregation, drainage conditions and priorities. FGDs were used to triangulate recurring themes and explain why services were or were not usable. The sample was purposive and focused on priority sites; it is not statistically representative of all camps or host communities. One respondent was recorded as a person with disability, which limits the confidence of disability-specific conclusions.

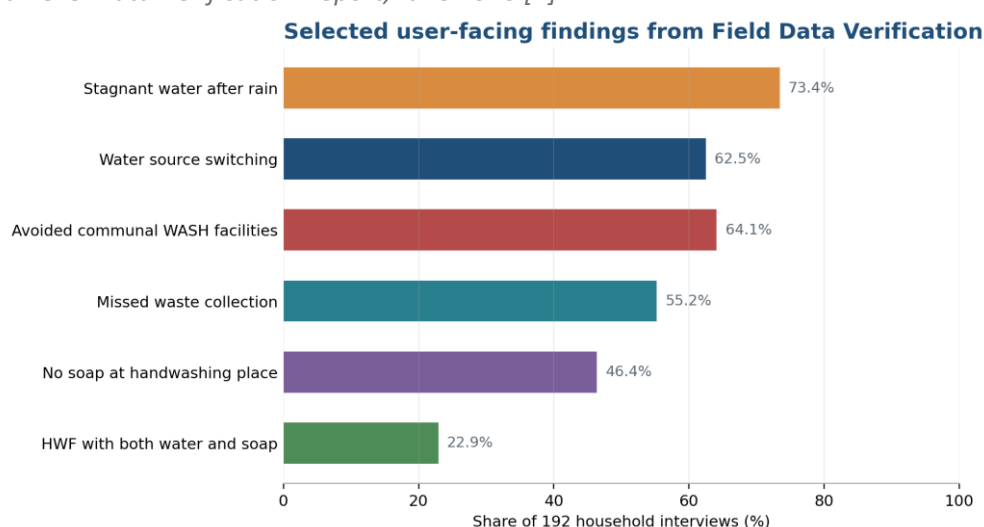
The controlling validation matrix assessed 38 desk-review claims. It classified 19 as supported, 14 as partially supported and 5 as requiring further investigation; no claim was contradicted or invalidated. This classification is most reliable for user-facing issues. Some technical, epidemiological or administrative claims are described as supported in the matrix using combined sector and field evidence, even though household and FGD data alone cannot test them. The assessment report therefore preserves the validation status but explicitly states the underlying evidence limits.



Source: Field-Level Data Verification Report, June 2026. No assessed claim was contradicted or invalidated.

Figure 2. Validation status of the 38 desk-review claims assessed through Field Data Verification.

Source: Field-Level Data Verification Report, June 2026 [7].



The purposive sample covers selected camp and host-interface sites and is not representative of all 33 camps.

Figure 3. Selected user-facing findings from the household component of Field Data Verification.

Source: Field-Level Data Verification Report, June 2026 [7]. Percentages describe the purposive validation sample, not all 33 camps.

Interpretation notes on missed collection. In the purposive validation sample, 106 of 192 respondents selected the missed-collection response. This should be read as at least one reported service lapse within the field tool, not as evidence that 55.2% of households had no collection service. The questionnaire extract does not establish a common recall period, and the result is not directly comparable with ISNA 2025. A defensible camp-host split is not available in the controlling matrix.

3.3 Key limitations of the consolidated report

Table 7. Key limitations, implications and treatment in the assessment report

Limitation	Why it matters	How the report handles it
No comprehensive all-camp site-level facility audit or physical facility verification was conducted.	The report cannot confirm the presence, exact condition, functionality, ownership or rehabilitation need of every WASH facility.	Facility-level conclusions are labelled indicative. A dedicated all-camp WASH facility inventory and water-system rating are the highest-priority technical recommendations.
Field Data Verification was purposive and covered selected camps and host-interface sites.	Percentages cannot be generalised to all 33 camps or used as formal prevalence estimates.	Field findings are used to validate direction and lived experience, not to create response-wide rates or rankings.

Limitation	Why it matters	How the report handles it
Governance-focused KIIs with WASH Sector, DPHE/FSL, RRRC/CiCs, AFAs, WASH partners, CFPs, relevant local authorities and technical operators were limited or missing. These KIIs should assess roles and responsibilities, infrastructure ownership, O&M, data management, corrective-action responsibility, decision-making authority, financing and transition challenges.	Mandates, ownership, accountability, transition readiness and financing options remain insufficiently verified.	Governance conclusions are treated as provisional; targeted KIIs and the WASH Systems and Sustainability Technical Consultation Group (TCG) are recommended before handover or financing decisions.
Desk reviews use different indicators, dates, methods and geographic units.	Figures and camp screens are not always directly comparable.	The report uses convergence, repeated concern and source-specific interpretation rather than a false composite score.
Technical measurements and administrative records were not part of the household/FGD package.	FRC, E. coli, FSTP COD, groundwater levels, abstraction, MRF throughput, landfill continuity, route efficiency and O&M cost cannot be verified from perception data.	These issues are identified as targeted technical validation needs and are not presented as field-confirmed facility findings.
There is no harmonised Sector-level facility registry and no audited partner O&M and whole-life cost ledger in the source package.	Cost-effectiveness, replacement liabilities and financing gaps cannot be calculated reliably at system level.	The report identifies directional cost pressures and recommends a two-tier approach: detailed facility and cost records at partner level, with common definitions, minimum facility-registry fields, essential service KPIs and consolidated risk reporting at Sector level.
The available field-verification records do not demonstrate adequate or systematic representation of persons with disabilities, extremely vulnerable households and other at-risk groups. Although 23 older persons were recorded, only one respondent was identified as a person with disability, and extremely vulnerable household status was not consistently captured.	The particular barriers faced by these groups—including mobility and accessibility constraints, safety concerns, dependence on caregivers, affordability challenges and access to complaint mechanisms—may therefore be under-represented. Findings from the field sample cannot be generalized to these groups.	Disability- and vulnerability-specific findings are treated as indicative only, and the report avoids subgroup prevalence claims. Targeted follow-up interviews, FGDs and accessibility audits are recommended with persons with disabilities, older persons, extremely vulnerable households, caregivers and other at-risk groups, with findings disaggregated where safe and appropriate.
Public-health data do not provide one clean denominator-based all-camp incidence and closure dataset.	Disease counts cannot be converted into a definitive camp league table, and alert closure cannot be assumed from action recording.	The public-health warning screen is used as a planning tool only; EWARS/JART/WASH closure records and population denominators require further review.
Host-community evidence is less complete and sometimes older than camp evidence.	Detailed municipal and host-side design conclusions remain uncertain.	Host findings are treated as interface priorities and planning signals, not as final design prescriptions.

3.4 Core secondary evidence base used in this report

Table 8. Core evidence streams and their role in the final assessment

Evidence stream	Coverage and role	Strength	Principal caution
Consolidated Inception Report [1]	Primary framing for the overall WASH narrative, cross-sector risks, field priorities, host interface and early recommendations.	High for analytical framing.	Inception product; it was designed to guide, not replace, field verification.
Water Supply Desk Review [2]	All 33 camps and host interface; system scale, quantity, quality control, source security, Teknaf, O&M and governance.	Medium-high for system and trend evidence.	No audited network-by-network asset and cost ledger; mixed indicators and seasons.
Sanitation & FSM Desk Review [3]	All camps and host interface; access, functionality, desludging, treatment, technology, safety and cost pressure.	Medium-high for front/downstream operational and treatment contrast.	Plant-level operating condition, route performance and cost require verification.
Solid Waste & Drainage Desk Review [4]	All camps and host/urban interface; service architecture, collection, MRFs, drainage, residual disposal and governance.	Medium-high for system architecture and risk patterns.	MRF and monitoring records have date, completeness and traceability limitations.
Hygiene Promotion & Behaviour Change Desk Review [5]	All camps and nearby host communities; enabling environment, HWFs, soap, MHM, safe access, accountability and community structures.	High for behavioural and enabling-environment interpretation.	Cost data, point-of-use uptime and community-structure effectiveness require direct verification.
Public Health/AWD Desk Review [6]	All camps and host communities; cholera/AWD trends, JART, vulnerability screens, service environment and alert closure.	High for response-wide surveillance interpretation.	No clean denominator-based all-camp disease and closure dataset.
Field Data Verification [7] and validation workbook [8]	Selected priority camp and host-interface sites; household/FGD validation of 38 claims.	High for lived-service and enabling-environment issues.	Purposive, not all-camp or facility-level; limited technical, cost and governance data.

4. Assessment Findings and Sustainability Analysis

4.1 Overall WASH Systems Context and Existing Systems

The overall WASH infrastructure and service system is significant and technically diverse. The water desk review reports 298 water networks, 320 production boreholes, 768 reservoir tanks and more than 7,000 tapstands. The sanitation/FSM review reports about 49,471 camp latrines, 26,129 bathing facilities and 167 FSTPs. The solid-waste and drainage review identifies 86 operational SWM-related facilities in its December 2025 inventory: 67 operational MRFs, 12 compost-only sites, four plastic-recycling sites, two operational dumping points and one drainage-waste segregation site. The sanitary landfill is described separately as the principal residual-disposal facility and is not added to the 86-facility total. Hygiene services operate through household and communal handwashing facilities, soap and MHM supply chains, volunteer and user-group structures, facility management, safe-access measures and complaint mechanisms. EWARS, JART and Health Sector surveillance provide the public-health detection layer. These figures demonstrate scale, not verified current condition. Facility counts come from different dates and reporting systems, and the assignment did not physically audit every site. The field component concentrated on user experience and selected priority locations. The final assessment therefore distinguishes three questions that are often conflated: whether a facility is recorded; whether it is physically present and functional; and whether the service chain delivers a reliable, safe and sustainable

service. The source package is strongest on the first and third questions at Sector and user level, but incomplete on the second at all-camp facility level.

The operating model is layered. Formal water networks coexist with point-source and private or fallback supply. Communal sanitation facilities depend on pit/tank containment, emptying, transfer and receiving treatment plants. Waste collection depends on household segregation, primary and final collection, MRF operation, market hand-off and residual disposal. Hygiene outcomes depend on water, soap, functioning HWFs, safe sanitation and bathing access, MHM supplies, waste and drainage conditions, and visible problem solving. Public-health protection depends on all of these functions continuing together.

Table 9. Existing WASH systems and principal sustainability control points

System	Main installed/service elements described in the sources	Critical control points for sustainability
Water supply	Production boreholes and surface-water sources; pumps and power; reservoirs; chlorination; transmission/distribution; tapstands; point-source fallback.	Source reliability; water production recording, including functional flow meters; treatment and FRC control; storage; network losses; service hours; energy; preventive maintenance; technical-operator competence; source and host impacts.
Sanitation & FSM	Latrines and bathing facilities; pits/tanks; desludging teams and equipment; transfer routes/nodes; FSTPs; effluent monitoring; disposal/end-use.	Containment condition; fill rate; safe emptying; route access; plant loading and uptime; effluent compliance; technical-operator safety; sludge/end-use pathway; whole-chain cost.
Solid waste & drainage	Household segregation; collection routes; communal points; MRFs; composting/recycling; residual transfer; drains and temporary dumping points.	Collection reliability; route productivity; material balance; residual storage and landfill continuity; drain hierarchy; waste/silt separation; SCCCM/SMSD leadership for physical drainage maintenance; agreed WASH waste and public-health roles; monsoon readiness.
Hygiene & MHM	Household and communal HWFs; soap supply; MHM materials; bathing/washing spaces; lighting/privacy/access features; volunteers and complaint mechanisms.	Water and soap at point of use; refill and repair responsibility; MHM adequacy and top-up; privacy and disposal; safe access; inclusive design; complaint and corrective-action closure.
Public health	EWARS and health reporting; cholera/AWD surveillance; JART assessments; WASH corrective actions; preparedness and response coordination.	Timely trigger; matched WASH investigation; named corrective action; post-action verification; escalation of unresolved risks; minimum preventive service package.

Sources: Consolidated Inception Report [1] and the five technical desk reviews/evidence streams [2]–[6]. Facility counts and system architecture are not substitutes for all-camp physical verification.

Overall triangulation finding

The report and technical desk reviews consistently describe significant but stressed WASH infrastructure and service systems. Field Data Verification confirms that users experience the resulting reliability, access, safety and environmental-health problems in selected sites. The evidence is incomplete for facility condition, technical performance, cost and governance. The central unresolved question is not whether systems exist, but which facilities and service chains should be protected, improved, rationalised, replaced or transitioned, based on public-health criticality, equity, service reliability, technical condition, whole-life cost, environmental risk and minimum humanitarian service obligations.

4.2 Water supply systems and services

The water-supply system has moved decisively from emergency installation to lifecycle management. The Water Supply Desk Review describes a large decentralized portfolio of groundwater networks, solar or hybrid pumping systems, reservoirs, chlorination units, distribution lines, tapstands and point-source fallbacks. Ukhiya is predominantly groundwater-based, while Teknaf relies on a more fragile combination of seasonal surface water, reservoirs, limited groundwater and some desalination. This geographic difference is fundamental: Teknaf is not simply a lower-performing version of Ukhiya, but a distinct multi-source operating environment with stronger dry-season, salinity and host-interface risks.

At all-camp screening level, the water desk review reports average household collection of 24.2 litres per person per day. Of the 33 camps, 17 were below 25 l/p/d and 21 were below 90% household sufficiency in the cited source matrix. The same matrix reports an average water-network Five-Star score of 3.16/5 and identifies recurring concerns in Camps 27, 05, 20 Extension, 09, KRC, 02E, 26, 10, 13, NRC, 18, 02W, 17 and 15, among others. These are screening signals rather than a verified ranking because the contributing indicators measure different parts of the chain and come from different methods and periods.

Water quality is principally an operational-control problem in much of the current evidence. The desk reviews report comparatively strong household zero-E. coli results where data exist, but inconsistent chlorination, incomplete automatic dosing, absent or non-functional water-production-recording systems and flow meters, weak FRC logging and uneven QA/QC. In the 2023 IWM review, 47% of networks had FRC at all surveyed tapstands; therefore, 53% did not achieve FRC at every surveyed tapstand. Separately, the 2025 MSF assessment found 42% of samples with acceptable chlorine and 42% with no detectable chlorine. These findings cannot be updated or verified by the household/FGD field package, but they support assessment of the source-treatment-storage-distribution chain rather than reliance only on household microbial results.

Field Data Verification strongly confirms the service-reliability dimension. Of 192 households, 120 reported source switching; 30 said water was not enough and 127 said it was enough only sometimes. Reported reasons included insufficient quantity, long queues, the source being closed when needed, and distance or access. Eleven of twelve FGDs reported not enough water, eight reported long queues and nine reported bad timing. The same evidence shows that source switching can conceal formal network deficits: households may maintain access by changing sources, waiting longer or using private or weaker alternatives.

Source-comparison note. In the field validation sample, 18 of 118 camp respondents and 12 of 74 host-interface respondents reported that water was not enough; source switching was reported by 88 of 118 camp respondents and 32 of 74 host-interface respondents. ISNA reported that 83% of camp households had enough water in 2025 (85% in 2024, 86% in 2023 and 85% in 2022). These sources use different samples, timing, wording and denominators. The field results therefore describe selected validation-site experience, while ISNA remains the broader camp estimate. The water desk review also distinguishes Ukhiya's predominantly groundwater-based systems from Teknaf's more fragile multi-source and dry-season operating context.

The field data only partially confirm service predictability and host-interface comparisons. Twenty-five households reported often or very unpredictable supply, but most described supply as predictable or mostly predictable. Host-interface interviews and FGDs confirm scarcity, source switching, private-supplier coping and requests for improved networks or deep tube wells, but the purposive sample does not prove that host households are uniformly worse than camp households on every metric. Groundwater level, EC/TDS, abstraction, reservoir and salinity records were not collected in the field component.

The sustainability judgement is that water supply is established but not sufficiently measured or differentiated. Immediate priorities are to protect quantity and chlorination, restore water production recording and dosing controls, reconcile recorded production with service hours and household experience, and prepare a source-by-source dry-season plan for Teknaf. Medium-term decisions on mini-

network improvement, rationalisation, solar-first hybrid operation, rehabilitation, consolidation or replacement should follow an all-camp engineering inventory and Five-Star or equivalent rating rather than be based on desk screens alone.

Desk-review evidence	Field Data Verification	Final assessment judgement
Significant installed water-supply infrastructure; uneven quantity and sufficiency; weak process control and Teknaf source risk.	Source switching, queues, insufficient or intermittent adequacy and timing problems are strongly confirmed in selected sites.	The user-facing reliability finding is triangulated. Chlorination, facility condition, source security and cost are only partially verified and require system-level audit.

Remaining validation need: all-camp facility verification; source/output reconciliation; water-production-recording and dosing audits; FRC and E. coli chain checks; groundwater, reservoir, EC/TDS and energy records; technical-operator and governance-focused KIIs.

Water supply decision implications

- Use a Water Supply Five-Star Assessment, or an equivalent system sustainability rating, across every network and principal point-source system; build on existing Five-Star practice but agree one sector-wide definition, scoring method and evidence protocol.
- Rate systems on facility condition, functionality, source reliability, recorded production, treatment and water safety, storage and distribution adequacy, service level, energy, O&M, technical-operator capacity, environmental risk, rehabilitation need and sustainability risk.
- Treat Teknaf as a multi-source operating zone and link camp decisions to reservoir status, rainfall, abstraction, EC/TDS/salinity, source yield, host impacts and dry season trigger levels.
- Update source- and system-specific Water Safety Plans, linking source risks, chlorination, storage, distribution, household handling, seasonal contingencies, hygiene promotion and community reporting.
- Do not rationalise or decommission mini-networks until service catchments, fallback sources, user protection, whole-life cost and replacement implications have been verified.

4.3 Sanitation, FSM and wastewater management

The sanitation system presents the clearest contrast between user-facing access and downstream treatment performance. The Sanitation & FSM Desk Review reports approximately 49,471 camp latrines, 26,129 bathing facilities and 167 FSTPs, with reported sanitation functionality of 96-98%. These figures indicate that sanitation access remains broadly adequate and day-to-day availability has largely been maintained. They do not demonstrate that the full FSM chain is environmentally safe, cost-efficient or sustainable.

The dominant concern is treatment performance. The desk review reports that only 21-22 per cent of camp FSTPs met acceptable COD standards in 2024-2025, after a temporary improvement in 2023. Raw wastewater monitoring cited in the review points in the same direction, with 20.6 per cent of 2024 samples and 22.1 per cent of 2025 samples within the same COD screening band. At camp level, 23 of 33 camps were below 33 per cent COD compliance in the cited monitoring round, 19 exceeded 20 users per functional latrine and 10 had women's night-time safety below 60 per cent. These figures are screening evidence and should be disaggregated to individual plants and service chains before investment decisions. Recurrent pressure is concentrated in emptying, transfer and maintenance. The desk review reports 155,739 latrine desludging actions, 65,593 latrine repairs and 18,778 bathing - facility repairs in 2025. It also cites 24,104 m³ of recorded sludge movement or treatment across 15,709 events in IOM-supported operating camps in 2024. High activity is not automatically evidence of poor performance; it may reflect load, access, pit design, solids accumulation, flooding or reporting practice. It does, however, demonstrate that service continuity is being preserved through a heavy and potentially expensive operating chain.

Field Data Verification confirms the user-facing and safety dimensions but not the plant and route findings. Household and FGD data show unsafe night access, poor lighting, privacy and route conditions, communal-facility avoidance, complaints and variation between sites. The field report also records sanitation use, overflow and service concerns. However, it did not inspect pit geometry, measure fill rates, review contractor logs, follow transfer routes, assess plant uptime or test effluent. It therefore cannot confirm the reported functionality rates, COD performance, transfer efficiency or technology suitability. The sustainability judgement is that sanitation access is being maintained, but the chain is not sufficiently controlled from containment to final disposal or end use. The priority is not one universal technology replacement programme. It is camp- and catchment-specific analysis of pit behaviour, safe emptying, route access, transfer mode, plant loading, process condition, effluent quality, technical-operator safety, disposal/end-use and whole-life cost. The evidence supports moving from reactive to scheduled service in recurrent hotspots, but only after route and plant data are reconciled.

Desk-review evidence	Field Data Verification	Final assessment judgement
High reported user-facing functionality; weak FSTP COD compliance; rising desludging and maintenance pressure; camp-specific technology and route issues.	Safe-access, avoidance, overflow and service-variation concerns are confirmed. Plant, route, treatment and cost performance were not directly tested.	The user-facing/downstream treatment contrast is strongly supported, but facility-level and treatment-plant conclusions remain indicative until technical audits are completed.

Remaining validation need: full-chain audits in priority camps; pit and route studies; technical-operator OH&S checks; treatment plant logs and DPHE/FSL data; effluent re-testing; disposal/end-use verification; standardised partner cost capture.

Sanitation and FSM decision implications

- ✓ Create a treatment-plant compliance and corrective-action loop led by DPHE/FSL with technical operators and WASH partners, linking each test result to a named action, re-test and closure status.
- ✓ Use route-time, loading, access, energy, labour, chemical, repair and downtime evidence to decide whether existing transfer modes should be stabilised, networked, consolidated or replaced.
- ✓ Adopt camp archetype-based service models rather than one FSM template for all camps. High-load dense areas, access-constrained slopes, Teknaf/RC interfaces and comparator camps require different engineering and O&M responses.
- ✓ Treat lighting, locks, privacy, accessible design and safe routes as routine sanitation O&M requirements, not optional protection additions.

4.4 Solid waste, drainage and environmental cleanliness

The solid-waste system is mature in design. The desk review describes a chain of household segregation, primary and final collection, MRF sorting and composting, recycler hand-off and residual disposal. The December 2025 inventory cited in the review records 86 operational SWM-related facilities, including 67 MRFs. The problem is not the absence of a service model; it is uneven execution, uncertain material balance, fragmented drainage responsibilities and dependence on a limited residual-disposal pathway. User-side desk evidence shows variation between camps. The review reports average visible waste around shelters of about 8.1 per cent, household segregation of 70.6 per cent, no-collection pockets of 3.4 per cent and compost use of 37.1 per cent. These averages conceal block-level differences and should not be treated as engineering audits. The desk review identifies weaker segregation in Camps 20, 02W, 11, 27 and 08W; larger no-collection pockets in Camps 27 and 25; and high visible-waste signals in Camps 02E, 07, 01W, 05 and KRC. It also identifies drainage-waste pressure in Camps 09, 15, 12, 27 and 24.

Field Data Verification provides strong confirmation of uneven service in the selected sites. Waste collection was reported as sometimes irregular by 80 households and mostly absent by 43; 106 of 192 respondents selected the missed-collection response. This indicates reported service lapses within the

purposive field tool, not that 55.2% had no collection service. Segregation was full in 76 households, partial in 61 and absent in 55. Eight of 12 FGDs reported no collection, seven reported mixed waste and nine prioritised better SWM and drainage-related action. These findings confirm that service-chain architecture does not guarantee consistent household-level collection or sorting.

Drainage problems are strongly reflected in user experience. Drains were reported blocked sometimes by 109 households and often by 54; 141 households reported stagnant water after rain. Six FGDs reported blocked drains and three standing water. This supports the conclusion that waste, blocked drains, stagnant water, flood exposure and sanitation quality are operationally linked. SCCCM/SMSD leads physical drainage maintenance and cleaning. WASH partners contribute through drainage-related solid-waste handling, sanitation and public-health risk management, community engagement and agreed joint camp planning.

The field package could not verify MRF throughput, incoming and outgoing material balance, compost quality and offtake, recycler continuity, residual storage time, transfer records, landfill cell status or route productivity. It also did not cover all named drainage hotspots. Cost-efficiency therefore cannot be judged from kilograms moved or user reports alone. The sustainability judgement is to protect minimum door-to-door domestic-waste collection, MRF core operations and residual-disposal continuity while undertaking targeted process and route audits. Physical drainage continuity is led by SCCCM/SMSD, with WASH contributing its agreed waste and public-health functions.

Desk-review evidence	Field Data Verification	Final assessment judgement
Mature MRF-centred architecture; uneven segregation and collection; drainage and waste are linked; residual-disposal and role clarity are concentrated risks.	Missed collection, mixed waste, blocked drains and post-rain stagnant water are strongly confirmed in selected sites.	The user-side service and drainage findings are triangulated. MRF performance, route efficiency, residual-disposal continuity and cost remain only partially verified.

Remaining validation need: MRF material-flow and stock audit; route-time study; recycler and landfill records; SCCCM/SMSD-led drain transects and physical-maintenance records; temporary-dumping checks; agreed WASH waste-handling roles; and complaint-tracing KIs.

Solid waste and drainage decision implications

- Ring-fence the minimum domestic-waste service package: harmonised door-to-door collection, MRF core operations, PPE, tools, supervision and residual-disposal functions. SCCCM/SMSD should separately protect physical drainage maintenance and cleaning, with WASH supporting agreed drainage-related waste handling and public-health actions.
- Prepare joint SCCCM/SMSD-WASH drainage-risk and waste-management plans for each priority camp. SCCCM/SMSD should lead drain hierarchy, de-silting, connecting-drain discharge and physical hotspot work; WASH should define temporary dumping, waste/silt separation, onward waste transfer, sanitation/public-health controls, community engagement and reporting lines within its mandate.
- Retain the harmonised door-to-door model as the default for domestic waste. Adapt route design, collection frequency, staffing, access arrangements, supervision and transfer points to block and terrain conditions. Use alternative arrangements only as formally approved exceptions, assessed against service reliability, protection, route time and cost.
- Protect residual-disposal continuity and establish contingency arrangements before landfill, haulage, access or financing disruptions interrupt the service chain.

4.5 Hygiene promotion, MHM and behaviour-change enabling environment

The hygiene assessment confirms a mature-response shift from awareness to enabling conditions. The Hygiene Promotion & Behaviour Change Desk Review finds that knowledge of key hygiene practices is generally high, but behaviour depends on reliable water, soap at the point of use, functional communal handwashing facilities, safe routes to WASH facilities, adequate MHM support, waste collection, minor

repair, community problem solving and complaint response. Where these conditions fail, additional messaging cannot compensate for the NFI and service-delivery gap.

Desk evidence shows why household-level soap possession is an incomplete measure. The hygiene review reports average observed household soap availability of 89.7% across the 33 camps, but previous surveys and audits show lower availability at handwashing facilities and communal nodes. It reports average access to MHM materials according to Sector standards of 71.8%; 69.2% of women and girls in the underlying camp data considered one kit per year insufficient, and 62.4% of households reported being unable to buy additional materials. It also reports an average of 64.7% for women and girls feeling safe using communal latrines at night.

Field Data Verification strongly confirms the gap between household supplies and a usable hygiene environment. Household soap was available in 132 interviews, but 89 households had no soap at the handwashing place and only 44 had both water and soap at HWF. Reported HWF problems included no water, no soap, broken devices, empty containers and no fixed place. All 12 FGDs reported not enough soap, while several identified no water or no soap at HWFs.

The MHM evidence is equally clear. Among relevant household responses, 80 reported materials partly sufficient and 36 insufficient; only 17 reported enough between refills. Top-up was only sometimes possible for 97 and not possible for 21. Privacy for washing and drying and safe disposal were often only partly workable. Nine FGDs reported insufficient MHM materials and three reported that women or girls could not buy top-ups. These findings support protecting current MHM standards and kit content, adequacy, refill frequency and access before reducing packages or shifting costs to households.

Safe access is a system-performance issue. Twenty-six households said women and girls were mostly unsafe at night and 93 said safe only sometimes. A total of 123 households reported avoiding communal facilities, with poor lighting, route condition and distance among the main barriers. Nine FGDs reported unsafe night access. The field evidence also confirms weak accountability: 99 households had made a WASH complaint, but only 18 reported complete action; eight FGDs described mechanisms as slow, partial or ineffective.

The sustainability judgement is that hygiene promotion should be judged by whether known problems are solved, not by the number of awareness sessions delivered. Household soap possession, soap at communal handwashing facilities, water at those facilities and facility functionality should be separate service KPIs. Current MHM standards and kit content, adequacy, privacy and top-up access should be protected unless an evidence-based review supports change. WASH committees, user groups and CHV/CHW structures should have clear roles in hygiene promotion, observation, participatory decision-making, referral, feedback and follow-up. Local production or market-supported options may be useful only after quality, affordability, exclusion and protection risks are assessed.

Desk-review evidence	Field Data Verification	Final assessment judgement
Knowledge is established, but soap at point of use, communal handwashing-facility functionality, MHM adequacy, WASH facility use and safe access, community-structure roles and complaint closure are uneven.	Point-of-use soap/HWF gaps, MHM insufficiency, unsafe night access, facility avoidance and weak complaint closure are strongly confirmed.	The hygiene enabling-environment finding is among the strongest triangulated conclusions in the assessment.

Remaining validation need: Direct facility spot checks across all camps; cost and supply records; disability-inclusive access audits; complaint tracing; volunteer and user-group role KIs; market/production feasibility and affordability analysis.

Hygiene, MHM and behaviour-change decision implications

- Define a ring-fenced minimum hygiene package that includes soap continuity, water and functionality at communal handwashing facilities, current MHM standards and adequate kit content, safe access and rapid minor repair; do not prioritise messaging while allowing enabling conditions to fail.

- Use women-led night safety walks and accessibility audits to prioritise lighting, locks, privacy screens, route improvements, ramps, handrails and washing/disposal features.
- Strengthen WASH committees, user groups and other community structures so they can identify priority service failures; support hygiene promotion, accessibility and safety reviews, observation and minor problem solving; verify corrective action and report recurrence; and participate in camp-level rehabilitation decisions, referral, feedback and follow-up.
- Make complaint closure a WASH service KPI and verify a sample of complaints directly with users rather than relying only on administrative closure.
- Align CHV/CHW and user-group roles around observation, problem solving, referral and feedback, with clear catchments, responsibilities and escalation pathways.

4.6 WASH-related public-health risk, AWD/cholera and surveillance

The Public Health Risk/AWD Desk Review shows that disease surveillance is stronger than the preventive service environment it monitors. It reports that 2025 ended with 59 culture-confirmed cholera cases and no deaths, and that early 2026 suspected or RDT-positive activity did not result in culture-confirmed cases in the cited reporting period. The appropriate interpretation is interrupted confirmed transmission, not elimination of risk. Wider diarrhoeal disease remains substantial: the review reports 2,631 AWD cases in EW3 2026 and 12,137 cumulative cases by that week, alongside bloody diarrhoea, other diarrhoea and acute jaundice syndrome. These figures are drawn from the public-health desk review and should be read within its stated reporting cut-offs.

The trend analysis in the public-health review is directionally favourable but not causal. It reports a decline in response-wide AWD cases over the aligned 2019-2025 EW1-38 series while average household zero-E. coli results improve. At camp level, however, high AWD case volumes occur both where household zero-E. coli is weak and where it is relatively strong. This confirms that water quality is critical but incomplete: quantity, chlorine control, sanitation load and treatment, drainage, waste, soap, safe access, health-seeking and reporting volume all matter.

JART evidence adds a case-linked service-environment perspective. Among plausible numeric readings cited in the public-health review, 52.5 per cent of assessed camp household FRC values were outside the 0.2-0.5 mg/l operating range. The pooled "nearest tap/source" value is not used in this report because the records do not disaggregate chlorinated network tapstands from point sources that are not designed to retain residual chlorine. The review also reports 597 of 1,082 assessed camp records without a HWF with soap next to the latrine and frequent visible-waste, container, latrine and Aquatab gaps. These are case-linked assessments, not population prevalence estimates. Their operational value lies in identifying corrective actions after alerts.

Field Data Verification supports the integrated service-environment model. Water source switching, point-of-use soap gaps, unsafe WASH facility use, reported waste-collection lapses and stagnant water were common in the selected sites, and FGDs mentioned disease, AWD concerns, odour and mosquitoes. The field component cannot verify epidemiological trends or EWARS/JART closure because it did not include case data, trigger logs or post-action review. Physical drainage maintenance and cleaning remain SCCC/SMSD functions; WASH actions relate to the identified waste, sanitation, hygiene and public-health control points.

The central public-health gap is therefore not the absence of surveillance. It is the absence of one visible chain linking alert, WASH assessment, named corrective action, responsible actor, due date, post-action verification, closure and escalation. A suspected cholera/AWD response should not be considered complete because an assessment or activity was recorded. Closure should demonstrate that the relevant water, sanitation, drainage, waste, soap or access control point has been corrected or that the unresolved risk has been escalated.

Desk-review evidence	Field Data Verification	Final assessment judgement
Surveillance is active; confirmed cholera transmission is interrupted rather than eliminated; diarrhoeal risk remains; service-environment and closure gaps are central.	Field evidence strongly supports the service-environment risk model but cannot confirm disease trends or administrative alert closure.	The preventive-control finding is triangulated; the epidemiological and closure findings require record-level validation.

Remaining validation need: EWARS/JART/WASH named-action and post-action closure logs; facility and source re-checks; joint Health-WASH governance KIIs.

Public-health decision implications

- ❖ Protect a minimum package of essential WASH services and public-health protection functions in priority camps: reliable water quantity, FRC and water-quality control; rapid sanitation-overflow response; SCCCM/SMSD-led physical drainage action with agreed WASH waste handling; soap continuity; point-of-use treatment where indicated; and safe communal access.
- ❖ Strengthen and connect the existing EWARS, JART and WASH arrangements through one shared trigger, action and closure protocol with agreed timelines, named owners, verification evidence and unresolved-risk escalation; do not create a parallel alert or information system.
- ❖ Use vulnerability screens and disease/JART overlays to target verification, but do not treat absolute case counts or a nine-signal warning score as a denominator-based disease ranking.
- ❖ Link plant-level FSTP compliance, water-system control and environmental-hygiene findings to routine public-health review rather than discussing them only within technical sub-sector forums.

4.7 All-camp and nearby host-community summary review analysis

All 33 camps remain the analytical frame of the assessment, but they were not all visited or audited. The desk reviews provide all-camp screening across different indicators, while Field Data Verification provides deeper evidence from selected camps and host-interface sites. The resulting picture should be used for prioritisation and design of further verification, not as a formal league table. Repeated appearance across several source documents is a stronger planning signal than any single desk score, but it still requires site-level confirmation.

Several locations recur in cross-WASH or public-health screens. Camps 05 and 27 appear repeatedly across water, sanitation, SWM/drainage, hygiene and public-health concerns and were included in field verification. KRC and NRC recur in several sub-sector screens and were also represented in the field component. Camps 09, 01E, 17, 26, 02E, 15, 16, 08W, 04, 02W, 14, 20/20 Extension, 24 and 25 emerge for particular combinations of water, FSM, drainage, hygiene or disease/JART signals. These lists do not imply that every problem is present in every camp or that unlisted camps are low risk.

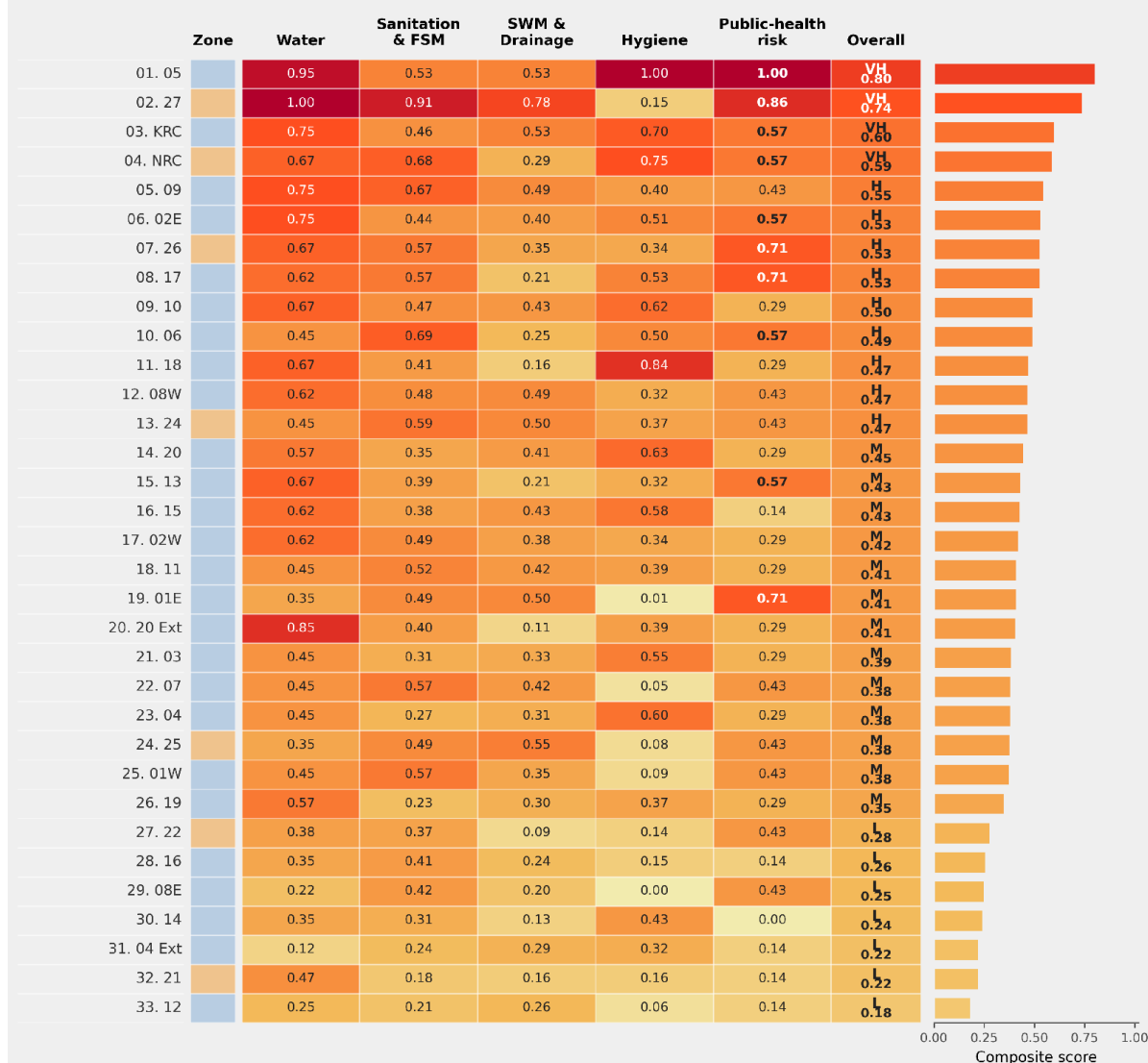
The host and urban interface is not uniform. Teknaf municipality and nearby host areas are the strongest combined priority because water scarcity, mixed-source operation, sanitation and municipal interfaces converge. Hnila and Whykong are important for source security, seasonal coping and local-authority engagement. Palongkhali/Ukhiya and peri-camp host areas around the megacamp/KRC interface require verification of source use, service disparities, drainage and public-health pathways. Field interviews in Hnila, Whykong and Palongkhali/Ukhiya confirm that host-interface risk is real, but they do not establish a simple host-worse pattern across every indicator.

Consolidated Desk-Review Camp Vulnerability Matrix

Rohingya Camps (All 33) - Cox's Bazar

Composite screening figure built only from the five draft desk review reports.

Higher scores indicate higher relative vulnerability at desk-review stage; this is a prioritization aid, not an official severity classification.



Relative sector/composite vulnerability

0.0 0.2 0.4 0.6 0.8 1

Zone

Ukhiya / Kutupalong Teknaf

Desk-review composite logic

- Water = carried forward from the existing 4-sector camp matrix
- Sanitation/FSM = carried forward from the existing 4-sector camp matrix
- SWM/drainage = carried forward from the existing 4-sector camp matrix
- Hygiene = carried forward from the existing 4-sector camp matrix
- Public-health risk = normalized AWD/public-health 9-signal matrix (scaled to 0-1 using the observed 0-7 warning range)
- Overall = mean of the five sector scores

Very high combined vulnerability: 05, 27, KRC, NRC

Implication for the all-camp assessment

The existing documents are sufficient to define the questions, indicators and priority checks, but not to replace a physical facility inventory. The next assessment step should cover every camp and every principal water system, with targeted modules for sanitation/FSM, SWM, SCCC/SMSD-led drainage interfaces and hygiene infrastructure. Deep-dive technical work should be risk-based, but the minimum Sector facility registry should cover all camps. Detailed facility, O&M and cost records should remain with WASH partners. Otherwise, prioritisation will continue to depend on incompatible inventories, mixed dates and partial partner records.

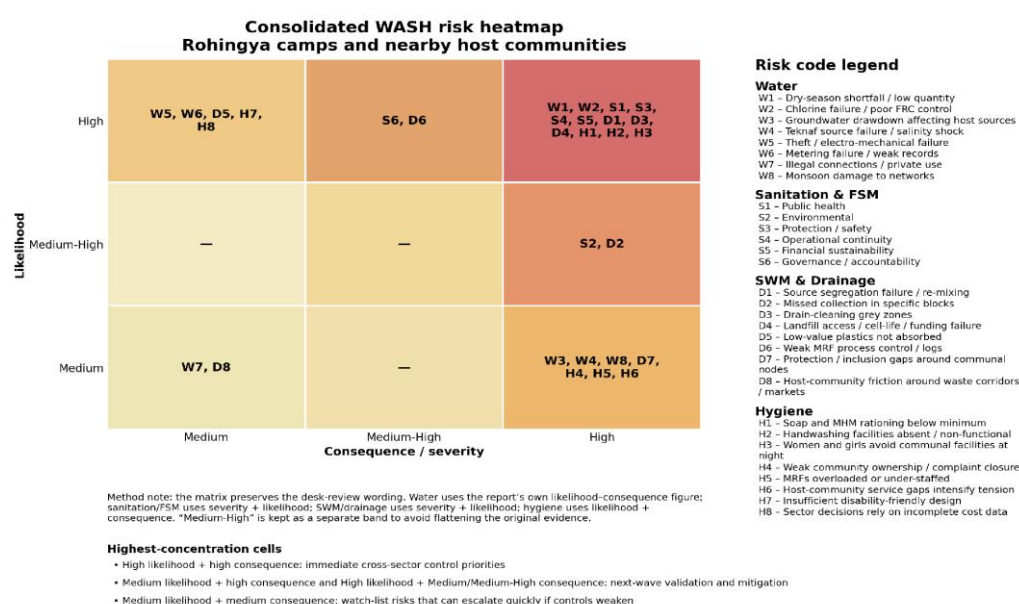
5. Cross-Cutting Findings and Risks

5.1 Sustainability, whole-life O&M pressure, system efficiency and public-health protection

The strongest cross-cutting finding is that service continuity is being protected through a high and only partly visible recurrent effort. Water systems require energy, backup fuel, chlorination consumables, testing, electro-mechanical repair, spare parts and routine operator attention. Sanitation requires repeated emptying, transfer, plant operation, laboratory monitoring and facility repair. SWM and drainage depend on labour, route supervision, MRF operation, transfer, markets and residual disposal. Hygiene requires soap and MHM supplies, HWF refill and repair, lighting and access improvements, community-facing personnel and complaint follow-up.

The source package does not contain one harmonised evidence structure that links recurrent inputs to service output, risk and facility condition. Detailed labour, fuel, energy, chemicals, spares, downtime, route and cost records belong at WASH-partner level; the Sector needs common definitions, minimum facility-registry fields, essential service KPIs and consolidated risks. Activity counts can indicate pressure, but they are not the same as cost or efficiency. A network that produces less water because of source limits is different from one that produces less because water production is not recorded, power is unavailable or distribution losses are high. A high number of desludging events may reflect load, pit design, access or reporting. A high waste tonnage may reflect a productive route or a route collecting mixed drainage waste. Rationalisation without this distinction can remove necessary service capacity rather than inefficiency.

Public-
health



protection should therefore be treated as a constraint on efficiency, not as a separate clinical service package.

The appropriate question is not simply how to reduce cost; it is how to reduce avoidable cost while protecting a minimum package of essential WASH services and public-health protection functions: water quantity and safety, sanitation continuity and treatment, domestic-waste collection, agreed drainage-related controls, soap and MHM adequacy, safe access and alert response.

To make this package operational, each component should have a minimum service standard, a named responsible actor and a recurrent cost estimate by camp or service catchment. Funding scenarios should distinguish Tier 1 - non-negotiable public-health and protection functions; Tier 2 - essential continuity and preventive O&M; and Tier 3 - optimisation, improvement or deferrable investment.

Several no-regrets efficiency measures are sufficiently supported for immediate action: restore water production recording and chlorination control; shift recurrent hotspots towards scheduled preventive O&M; reconcile treatment-plant and route performance; clean and version-control facility and monitoring data; trace complaints and alerts to closure; improve MRF material-flow and route visibility; and clarify WASH-partner, technical-operator and SCCCM/SMSD responsibilities. More structural measures - network consolidation, treatment-technology transition, transfer-node investment, service-model redesign, local production, market top-up or cost recovery - require additional technical, affordability and governance evidence.

Table 11. Cross-sector O&M pressure and minimum evidence required for efficiency decisions

Domain	Likely recurrent pressure identified in the sources	Minimum evidence needed before efficiency or rationalisation decisions
Water supply	Energy and backup fuel; fragmented mini-networks; water-production-recording and dosing equipment; electro-mechanical repair; chlorination and testing; Teknaf multi-source operations.	Partner facility and age records; source/output and service-hour logs; water-production-recording and FRC records; energy/fuel; downtime; spares; repair history; catchment and fallback-source analysis.
Sanitation & FSM	Desludging frequency; route access and transport; plant labour, energy and chemicals; repairs; technical-operator safety; treatment failure and rework.	Pit/fill evidence; route-time and volume; plant loading and uptime; DPHE/FSL results; contractor and labour records; chemical/energy use; repair and bypass history.
SWM & drainage	Domestic-waste collection labour; route supervision; transfer; MRF processing; residual storage and haulage; WASH handling of waste removed from drains; SCCCM/SMSD physical drainage maintenance and temporary-dumping management.	Partner route-time and staffing records; household/service coverage; MRF input/output material balance; recycler receipts; residual transfer and landfill logs; SCCCM/SMSD physical drainage records; and a clear allocation of WASH waste-handling roles.
Hygiene & MHM	Soap and MHM supplies; HWF refill/repair; lighting and safe-access retrofits; volunteer and complaint-response functions.	Household and point-of-use availability; distribution and top-up data; unit cost and quality; facility uptime; repair response time; safety/access audits; complaint and volunteer performance.
Public-health control	FRC/source re-checks; rapid WASH action; case-linked household support; preparedness stocks; post-action verification.	Trigger and action timestamps; named owner; service-control findings; corrective-action record; re-check evidence; closure/escalation status; minimum-stock and readiness data.

5.2 Governance, accountability, surveillance-to-action and local-authority transition

Governance is the largest unresolved systems issue. The desk reviews consistently identify fragmented responsibility across Sector coordination, camp administration, public technical agencies, AFAs, WASH partners, CFPs, technical operators, SCCCM/SMSD actors, protection actors and relevant local authorities. Field Data Verification confirms that users encounter volunteers, partner staff, committees, CiC offices and local representatives, but it does not establish who owns infrastructure, who is accountable for a service standard, who authorises repair, who carries replacement liability or who should finance long-term operations. Governance-focused KIIs were limited or missing.

This gap makes immediate service handover an unsupported assumption. Public-authority participation can and should grow through practical functions: standards, laboratory and source oversight, joint facility and performance review, approval of corrective actions, municipal interface planning, environmental and disposal coordination, and transition design. Wider host-community and municipal service actions should be led through the relevant government or district mechanisms. The pace and form of wider transfer should depend on mandate, capacity, financing, legal authority, information quality and service-protection arrangements.

Accountability has a similar problem. Complaint channels and surveillance systems exist, but the evidence is much stronger on reporting and assessment than on closure. The field component found that only 18 of 99 complaint-makers reported complete action. The public-health desk review identifies the need to connect EWARS and JART signals to named WASH actions and post-action verification. In both cases, the management principle is the same: a case should not close at referral or activity recording; it should close when the service problem has been verified as resolved, or when an unresolved risk has been escalated to the correct decision level.

Complaint handling should distinguish: (1) information requests, closed when accurate information is provided; (2) referrals, closed when hand-off to the competent actor is confirmed; (3) urgent safety or protection concerns, managed through confidential safeguarding pathways; (4) technical service complaints, closed only after corrective action is verified with the facility, record or user; and (5) unresolved systemic issues, escalated to the relevant technical or decision-making level.

Recommended governance mechanism: WASH Systems and Sustainability Technical Consultation Group (TCG)

Core membership: WASH Sector; DPHE/FSL; RRRC/CiCs; AFAs; WASH partners; CFPs; relevant local authorities; and technical operators. Health Sector/WHO, SCCCM/SMSD, Protection actors, donors and community-facing structures should participate when their functions are relevant.

Purpose: validate governance and institutional gaps; agree facility-inventory and rating methods; clarify service, infrastructure and data responsibilities; guide proportionate O&M, service-level and cost monitoring; review tariff or cost-recovery questions where relevant, lawful, affordable and protection-sensitive; support operationally linked camp-host alignment; and guide staged transition and handover planning.

Operating principle: the group should be a decision and follow-up mechanism, not another information-sharing forum. Each action should have an owner, evidence requirement, due date and closure status.

Relationship to existing structures: The TCG will not replace the WASH Sector, existing Technical Working Groups, EWARS, JART or partner information systems. Technical groups will retain their specialist functions; the TCG will resolve cross-cutting decisions on evidence standards, responsibilities, financing, accountability, transition and recommendation closure.

Table 12. Proposed initial terms of reference for the WASH Systems and Sustainability Technical Consultation Group (TCG)

Workstream	Initial responsibility	First 90-day output
Governance and role validation	Conduct targeted KIIs and map mandates, decision rights, infrastructure ownership, O&M responsibility, data management, corrective-action authority, financing and transition constraints.	Validated role and responsibility matrix, including unresolved issues and interim arrangements.
Asset and data alignment	Agree unique asset identifiers, minimum data fields, GIS/location rules, evidence standards and update responsibilities.	Approved all-camp inventory protocol, data dictionary and custodianship/update matrix.
Service and O&M monitoring	Define minimum service KPIs, operator logs, preventive maintenance, cost templates and complaint/alert closure.	Common dashboard specification and reporting calendar.
Priority corrective action	Review immediate water, FSM, SWM/drainage, hygiene and public-health protection gaps.	Risk-based 90-day corrective-action plan for critical sites and functions.
Transition and financing	Define conditions for staged oversight, potential handover, municipal interfaces and any future tariff/cost-sharing analysis.	Transition principles and evidence requirements; no premature transfer or user-charge assumption.

Data custodianship should build on existing systems. Subject to institutional agreement, the WASH Sector IM function should be the custodian of the minimum Sector facility registry and common KPI definitions; WASH partners and technical operators should remain custodians of detailed component, condition, repair, O&M and cost records; DPHE/FSL and competent authorities should retain laboratory and regulatory compliance records; SCCCM/SMSD should retain physical drainage infrastructure and maintenance records; and Health Sector/WHO should retain EWARS and JART records. The TCG should agree data standards, quality assurance, access and cross-system reconciliation. Existing systems should be harmonised before any new platform is considered.

5.3 Equity, protection, gender and inclusion

Equity and protection are not parallel themes; they determine whether technically available services are usable. The desk reviews and Field Data Verification show that night-time safety, lighting, privacy, route condition, distance, locks, accessible design and complaint visibility shape use of water points, latrines, bathing spaces and waste routes. When facilities are avoided, delayed or replaced by improvised household coping, the service model is not delivering its intended public-health or dignity outcome.

Women and girls carried much of the field evidence: 135 of 192 household respondents were female, and five FGDs were women-only. This strengthens the assessment of MHM, safe access and communal facility experience. It does not remove important gaps. The household profile recorded only one person with disability, and the sample was not designed to estimate disability-specific access. The 2025 safety-audit evidence cited in the desk reviews indicates that accessible features remain limited. Further assessment should therefore use direct accessibility observation and purposive engagement with persons with disabilities, older people, caregivers, adolescents and gender-diverse users.

MHM illustrates the difference between nominal access and equitable service. Product quality and acceptance may be high, but inadequate quantity, long refill cycles, limited top-up capacity, lack of private washing/drying space and weak disposal options still create exclusion. Similar issues arise with soap: household possession is not equivalent to water and soap at the point of handwashing. Equity analysis should therefore focus on the complete use pathway, household size, affordability, safety and the practical ability to act on hygiene knowledge.

Complaint mechanisms should also be assessed for unequal access. A mechanism that is known but slow, inaccessible at night, dependent on a volunteer, or unable to address protection-related concerns is not equally usable. Complaint and alert records should be disaggregated where safe and appropriate, and closure should include user verification. Protection-sensitive information must remain confidential and should not be absorbed into open asset-management systems.

Community participation should extend beyond receiving information or reporting problems. Representative women, persons with disabilities, older people, adolescents and other at-risk groups should be able to identify priority service failures, participate in accessibility and safety reviews, verify whether corrective action solved the problem, report recurrence, influence camp-level rehabilitation priorities and access information on service standards and closure status. Sensitive protection information should remain outside open dashboards.

5.4 Top priority needs and high risks

Table 13. Top priority needs, risk pathways and required controls

Priority need	Evidence-based risk pathway	Immediate control	Residual uncertainty
Verified asset and system baseline	Incompatible inventories and no all-camp audit prevent reliable rehabilitation, replacement, ownership and budget decisions.	Consolidate available records and launch all-camp inventory with unique IDs and evidence rules.	Exact asset presence, condition, operator, age, replacement liability and rehabilitation priority.
Reliable water and chlorination	Quantity gaps and source switching increase reliance on fallback sources; weak FRC control can allow contamination through the network.	Protect supply hours, restore water-production-recording and dosing controls, strengthen FRC chain checks and prepare the Teknaf dry-season plan.	Network-by-network condition, source yield, distribution losses, groundwater/reservoir status and whole-life cost.
Treatment-compliant FSM chain	High user-facing functionality can mask poor treatment, repeated emptying, unsafe work and environmental discharge.	Prioritise hotspot service continuity, DPHE/FSL review and corrective actions.	Pit behaviour, routes, plant loading/uptime, technology suitability, disposal/end-use and cost.
Continuous SWM and drainage	Missed collection and waste in drains cause blockage, stagnant water, flooding, vectors and degraded sanitation conditions.	Protect harmonised door-to-door domestic-waste collection and residual disposal; support SCCCM/SMSD-led physical drainage action through agreed WASH waste and public-health functions.	MRF mass balance, route productivity, landfill continuity, current hotspot condition and responsibility gaps.
Hygiene enabling environment	Knowledge does not translate into practice where HWFs lack water/soap, MHM is insufficient or facilities are unsafe.	Protect minimum soap/MHM, HWF refill/repair, lighting, privacy, routes and complaint response.	All-camp point-of-use functionality, cost, inclusive access and performance of community structures.
Surveillance-to-action closure	Alerts and complaints can recur if assessments and actions are recorded without verified correction.	A shared protocol linking existing EWARS, JART, WASH and complaint processes, with owners, deadlines, verification and escalation.	Current closure performance, data ownership, escalation and integration between health and WASH systems.
Governance and transition	Unverified roles create gaps, duplication and premature handover risk.	Establish the WASH Systems and Sustainability Technical Consultation Group (TCG) and conduct targeted governance-focused KIIs.	Mandate, infrastructure ownership, WASH-partner and technical-operator accountability, financing, public-authority capacity and transition conditions.

Priority need	Evidence-based risk pathway	Immediate control	Residual uncertainty
Whole-life financing and cost visibility	Funding cuts may remove essential functions while hidden inefficiency remains unaddressed.	Ring-fence minimum services and implement common O&M/cost ledgers.	System-level unit costs, replacement liabilities, affordability and feasible financing/cost-sharing arrangements.
Camp-host and Teknaf interface	Shared sources, environmental pathways, markets and public institutions can transfer risk and tension across boundaries.	Integrated Teknaf and host-interface planning with DPHE/municipal engagement.	Host asset/service baseline, source impacts, municipal capacity, affordability and shared infrastructure options.

6. Combined WASH Recommendations (Prioritized)

The recommendations below combine the inception framing, the five technical desk reviews/evidence streams and Field Data Verification. They are prioritised according to three criteria: protection of minimum essential WASH services and public-health protection functions; closure of evidence and governance gaps that block sound decisions; and creation of a practical pathway from immediate safeguards to longer-term facility management and transition.

Within these three criteria, decisions should be documented against the public-health consequence of failure; protection, gender, disability and equity impact; population and critical institutions served; service reliability and technical condition; environmental consequence; whole-life cost and replacement liability; technical feasibility; mandate and institutional readiness; availability of safe fallback services; and implementation and financing feasibility. Any numerical weighting should be developed, tested and agreed through the TCG before use.

Scope and leadership note.

Recommendations are organised as:

- (1) camp service actions led through the WASH response;
- (2) camp-host interface actions only where infrastructure, sources, environmental pathways or services are operationally linked; and
- (3) wider host-community, municipal and district actions led through the relevant government or district coordination mechanisms. SCCCM/SMSD leads physical drainage maintenance and cleaning; WASH contributions are limited to drainage-related solid-waste handling, sanitation and public-health risk, community engagement and agreed joint planning.

Table 14. Prioritised combined WASH recommendations

Priority	Recommendation	Horizon	Lead and core stakeholders	Decision rationale
1 - Critical	Establish the WASH Systems and Sustainability Technical Consultation Group (TCG) with the WASH Sector, DPHE/FSL, RRRC/CiCs, AFAs, WASH partners, CFPs, relevant local authorities and technical operators.	Immediate	WASH Sector and RRRC, with DPHE/FSL	Closes the principal governance and decision gap; creates ownership for inventory, service monitoring, cost, transition and recommendation follow-up.

Priority	Recommendation	Horizon	Lead and core stakeholders	Decision rationale
2 - Critical	Conduct an all-camp WASH facility inventory and Water Supply Five-Star or equivalent system sustainability rating.	0-6 months for method and pilots; 6-18 months for priority rollout	TCG; DPHE; AFAs/WASH partners; technical operators; relevant local authorities	The assignment did not include a full site-level facility audit. A minimum Sector facility registry and verified system ratings are required for rehabilitation and accountability; detailed facility, O&M and cost records remain with WASH partners.
3 - Critical	Protect a minimum package of essential WASH services and public-health protection functions during funding and service-model review.	Immediate and continuous	WASH Sector; RRRC/CiCs; WASH partners; Health Sector/WHO for alert linkage; relevant authorities	Prevents erosion of water quantity/chlorination, sanitation/FSM, harmonised domestic-waste collection, agreed drainage-related WASH controls, soap/MHM, safe access and alert response.
4 - High	Create a proportionate two-tier data system: detailed partner facility/O&M/cost records and a limited Sector facility registry, essential KPI dashboard and consolidated risk summary.	Short term	WASH Sector/TCG; AFAs/WASH partners; technical operators; donors	Enables performance comparison, cost control, replacement planning, accountability and evidence-based rationalisation.
5 - High	Stabilise water reliability and process control, with a dedicated Teknaf dry-season and camp-host operating plan.	Immediate to medium	Water TWG; DPHE; RRRC/CiCs; partners	Responds to confirmed source switching and reliability problems and to unresolved source, reservoir, salinity and host risks.
6 - High	Strengthen the full sanitation/FSM chain and DPHE/FSL-led treatment-plant compliance and corrective-action loop.	Short to medium	DPHE/FSL; WASH Sector; AFAs/WASH partners; plant and desludging technical operators	Addresses the gap between high user-facing functionality and weak treatment control, while reducing reactive O&M and environmental risk.
7 - High	Maintain the harmonised door-to-door domestic-waste model, strengthen MRF and residual-disposal continuity, and implement joint SCCCM/SMSD-WASH drainage-risk and waste-management plans.	Immediate to medium	SCCCM/SMSD; WASH Sector; AFAs/WASH partners; CiCs; relevant local authorities and technical operators	Responds to strongly confirmed collection and drainage-related risks while respecting SCCCM/SMSD leadership for physical drainage maintenance and cleaning.
8 - High	Make hygiene enabling conditions, MHM adequacy, safe access and complaint closure core service KPIs.	Immediate to medium	Hygiene leads; WASH partners; CFPs; Protection; CiCs; WASH committees/user groups/CHV-CHW structures	Field evidence strongly confirms that behaviour is constrained by water, soap, functionality, MHM, safety and weak corrective action.
9 - High	Strengthen and link existing EWARS, JART and WASH arrangements through one shared trigger, action and verified-closure process.	Immediate to short term	Health Sector/WHO; WASH Sector; CiC/CFP; partners	Converts strong surveillance into accountable preventive and corrective action.

Priority	Recommendation	Horizon	Lead and core stakeholders	Decision rationale
10 - High	Prepare camp-wise sustainability, rehabilitation and partner/technical-operator capacity plans using the verified facility inventory and ratings.	Medium term	TCG; AFAs/WASH partners; technical operators; donors	Links evidence to capital and recurrent planning, prioritised rehabilitation and service standards.
11 - Strategic	Develop staged transition, municipal/authority-linked oversight and equitable financing pathways.	Medium to long term	RRRC; DPHE; municipalities; WASH Sector; development partners	Supports durable service governance without assuming immediate handover or unaffordable user charges.

Implementation principles

- I. Protect essential WASH services and public-health protection functions before pursuing savings. Efficiency measures should not reduce minimum water quantity and safety, sanitation/FSM continuity, harmonised domestic-waste collection, agreed drainage-related WASH controls, soap/MHM, safe access or surveillance-response capacity.
- II. Verify before rationalising. Facility closure, consolidation, technology change, market substitution, user charging or handover should follow site-level technical, service, cost, equity and governance evidence.
- III. Use one proportionate evidence framework. WASH partners should maintain detailed facility, service, O&M and cost records; the Sector should maintain common definitions, unique facility identifiers, essential KPIs, consolidated risks and quality assurance.
- IV. Differentiate by camp and source archetype. Ukhiya and Teknaf, dense and dispersed blocks, high-load and lower-load FSM chains, and steep or accessible waste routes require different operating models.
- V. Close the loop. Every complaint, laboratory non-compliance, WASH alert and critical facility defect should be assigned, tracked, verified and closed or escalated.
- VI. Plan camp and host interfaces together only where sources, infrastructure, environmental pathways, markets, disposal, public health or public institutions are operationally linked. Wider host-community and municipal actions should be led through the relevant government or district coordination mechanism.
- VII. Strengthen public oversight in stages. Start with standards, monitoring, laboratory review, minimum facility/data governance and joint corrective action before assuming wider service transfer.

7. Conclusion

The available documents provide a credible and coherent basis for understanding the sustainability challenge facing WASH systems in Cox's Bazar. The Consolidated Inception Report establishes the overall frame; the five technical desk reviews/evidence streams show the scale and technical pressures within four WASH sub-sectors and the cross-cutting public-health/AWD domain; and Field Data Verification confirms that many user-facing consequences are visible in selected camp and host-interface sites. The response has moved beyond emergency establishment into a protracted operating phase where facility condition, preventive O&M, process control, data, cost, WASH-partner and technical-operator capacity, accountability and transition matter as much as coverage.

The strongest triangulated findings concern uneven water reliability and source switching; point-of-use soap and communal handwashing-facility gaps; MHM adequacy; unsafe WASH facility use and facility avoidance; weak complaint closure; irregular waste collection; blocked drains and stagnant water; and the public-health relevance of the complete service environment. The strongest unresolved findings concern physical facility condition and performance, chlorination and groundwater control, treatment plants and routes, MRF material flow and residual disposal, whole-life cost, alert closure and institutional roles.

The assignment did not include a comprehensive site-level facility audit across all camps. It also did not include the governance-focused KII programme required to verify infrastructure ownership, mandates, financing and handover readiness. For this reason, the assessment report does not recommend immediate service transfer, blanket system rationalisation or untested cost shifting. It recommends creating the evidence and governance mechanism needed to make those decisions responsibly.

The two most critical next steps are therefore clear. First, agree and roll out an all-camp WASH facility inventory and Water Supply Five-Star or equivalent system sustainability rating, supported by targeted sanitation/FSM, SWM and hygiene modules and SCCCM/MSD-led drainage verification. Second, establish the WASH Systems and Sustainability Technical Consultation Group (TCG) with the WASH Sector, DPHE/FSL,

RRRC/CiCs, AFAs, WASH partners, CFPs, relevant local authorities and technical operators. Together, these actions can convert fragmented evidence into a shared facility-management, service-monitoring and transition framework.

If implemented, the recommendations will allow stakeholders to distinguish what should be protected, repaired, improved, rationalised, replaced or transitioned; to budget O&M and infrastructure improvement more realistically; to close public-health and accountability loops; and to engage donors and public authorities with a transparent, risk-based plan. Without them, the response is likely to remain dependent on partial facility records, reactive maintenance, user coping and recurrent emergency correction.

8. Recommendations

This section translates the strategic priorities into sequenced actions. Timeframes are indicative and should be confirmed by the WASH Systems and Sustainability Technical Consultation Group (TCG). The revised sequence allows 0-6 months for agreement, safeguards and pilots; 6-18 months for priority-camp rollout and targeted audits; 12-24 months for wider rehabilitation planning and scale-up; and 24+ months for institutionalisation, recurring re-rating and staged transition.

8.1 Immediate recommendations (0-6 months)

❖ Establish governance and accountability

Constitute the WASH Systems and Sustainability Technical Consultation Group (TCG), approve a concise term of reference and six-month workplan, and assign a secretariat and decision-tracking function. Complete targeted KIIs with WASH Sector leadership and technical groups, DPHE/FSL, RRRC/CiCs, AFAs, WASH partners, CFPs, relevant local authorities and technical operators. KIIs should assess roles and responsibilities, infrastructure ownership, O&M, data management, corrective-action responsibility, decision-making authority, financing and transition challenges.

❖ Protect minimum services

Agree and ring-fence a minimum package of essential WASH services and public-health protection functions covering water quantity and chlorination, sanitation and FSM continuity, harmonised domestic-waste collection, agreed drainage-related WASH controls, essential soap and current MHM standards and kit content, safe access and rapid WASH response to disease alerts. Each component should have a minimum service standard, named responsible actor and recurrent cost estimate by camp or service catchment, grouped into Tier 1, Tier 2 and Tier 3 funding scenarios. Funding decisions should clearly identify and prioritise these essential services to prevent them from being reduced without proper assessment or monitoring.

❖ Prepare the all-camp inventory and rating: Analyse WASH risk and target population vulnerability

Consolidate existing Sector facility inventories, GIS files and monitoring data into a minimum facility registry with unique IDs and agreed fields. WASH partners should maintain detailed facility, technical-operator, O&M, repair and cost records. Agree evidence requirements, quality assurance, system boundaries, sampling rules, data ownership and update responsibilities. Pilot the Water Supply Five-Star or equivalent tool in a small set of contrasting systems before priority-camp rollout.

❖ Close immediate service risks

Use existing monitoring data and field observations to identify critical water-service issues, non-functional water-production-recording or dosing equipment, recurrent sanitation overflows, unsafe communal WASH facilities, missed waste-collection routes, blocked drains and unresolved WASH complaints. SCCM/MSMD should lead physical drainage action. Corrective action should be time-bound and documented without waiting for the full facility inventory where there is an immediate public health or protection risk.

8.2 Priority-camp rollout and targeted verification (6-18 months)

❖ Conduct the priority-camp facility inventory and technical verification

Complete physical verification of WASH facilities in priority camps, with system-level Five-Star or equivalent rating for water supply. Undertake deeper treatment-plant and route audits for FSM, MRF and residual-waste disposal audits for SWM, SCCCM/SMSD-led drain transects and physical-maintenance checks, and direct communal handwashing/safe-access observation. Integrate WASH infrastructure and services in nearby host communities only where they are operationally linked to camp systems.

❖ **Standardise data, O&M and cost records**

Introduce a two-tier record system. WASH partners should maintain detailed production, service-hour, FRC, water-quality, source-monitoring, preventive-maintenance, repair, downtime, treatment-plant, desludging-route, waste-collection, MRF material-flow, hygiene-supply, complaint and cost records. The Sector/TCG should monitor only common definitions, minimum facility-registry fields, essential KPIs and consolidated risks. SCCCM/SMSD should maintain physical drainage records. Data should be quality-assured and linked to unique facility IDs. Existing systems should be harmonised before any new platform is considered.

❖ **Strengthen public-health and complaint closure**

Link existing EWARS, JART and WASH records through a shared tracking and response protocol, starting with recent alerts in priority camps, rather than creating a parallel information system. Apply the complaint classification set out in Section 5.2: record the issue type, responsible actor, due date, actions taken, verification and user confirmation where appropriate. Unresolved risks should be escalated rather than closed without resolution.

❖ **Strengthen key WASH sub-sectors**

Restore critical water-production-recording and chlorination controls; update source- and system-specific Water Safety Plans; develop Teknaf dry-season operating triggers; move recurrent FSM hotspots towards scheduled service; formalise DPHE/FSL treatment-plant corrective-action follow-up; maintain the harmonised door-to-door domestic-waste model; ensure MRF and residual-disposal continuity; support SCCCM/SMSD-led physical drainage action through agreed WASH waste and public-health functions; and make communal handwashing readiness, MHM adequacy, safe WASH facility use and complaint closure service KPIs.

8.3 Medium-term recommendations (12-24 months)

❖ **Prepare camp-wise sustainability and investment plans**

Use the verified facility inventory, ratings and technical audits to produce camp-wise profiles of facility condition, service level, critical risks, rehabilitation and replacement needs, O&M requirements, WASH-partner and technical-operator capacity and transition options. Plans should distinguish immediate safeguards, preventive maintenance, minor rehabilitation, major capital works, rationalisation candidates and comparator systems.

❖ **Improve service models and partner/technical-operator capacity**

Develop competency standards, staffing plans, supervision, tools, spare-parts strategies and preventive-maintenance schedules for water, FSTP, desludging, MRF and collection technical operators. Pilot service-model changes only where evidence demonstrates a credible benefit. Examples may include water-network consolidation, solar-first hybrid improvement, transfer-node or conveyance improvements, stronger MRF process control and validated local production or supply options for MHM and soap. For domestic waste, retain door-to-door collection as the default and adapt routes, frequency, staffing and access arrangements rather than replacing the harmonised model.

❖ **Integrate Teknaf and host-community planning**

Prepare an integrated Teknaf and operational camp-host interface WASH plan covering source management, reservoir and groundwater triggers, water-quality and salinity monitoring, sanitation/FSM interfaces, camp waste and residual-disposal pathways, public-health preparedness, authority roles and priority linked host investments. Physical drainage and wider municipal SWM actions should be led through SCCCM/SMSD and relevant district/local-authority mechanisms. Similar, proportionate interface plans should be prepared for

Hnila, Whykong, Palongkhali/Ukhiya and peri-camp zones only where infrastructure, services or risks are operationally linked.

❖ **Develop financing and transition scenarios**

Use verified whole-life cost and facility-liability data to develop financing scenarios for minimum services, priority rehabilitation and infrastructure improvement. Any tariff, cost-recovery or cost-sharing discussion should be grounded in policy, legal authority, affordability, protection, service quality and willingness-to-pay analysis. It should not be treated as a substitute for humanitarian or public financing where households cannot afford the cost.

8.4 Long-term recommendations (24+ months)

❖ **Institutionalise facility management and periodic re-rating**

Maintain one authoritative minimum WASH facility registry at Sector level, while WASH partners update detailed condition, technical-operator, O&M and cost records. Re-rate water systems and other critical service chains at an agreed annual or risk-based interval. Link ratings to budgets, preventive maintenance, capital planning, donor reporting and transition decisions.

❖ **Implement staged transition and handover frameworks**

Define minimum conditions for any transfer of oversight or service responsibility: verified asset and liability data; agreed standards; competent operators; reliable financing; clear legal mandate; accessible complaints; public-health safeguards; transition support; and contingency arrangements. Handover should be staged by function and system, not assumed at response level.

❖ **Strengthen municipal and authority-linked service models**

Where relevant, develop municipal or authority-linked models for source monitoring, laboratory oversight, host/urban FSM, waste markets, residual disposal, environmental control and regulatory review. These models should be designed around real mandate and capacity, with transparent financing and protection of camp and host service levels.

❖ **Build sustainable financing and accountability**

Establish multi-year O&M and renewal plans that separate minimum service costs, efficiency gains, capital replacement and transition investments. Use performance and risk evidence for donor and government dialogue. Publish appropriate summary information on service standards, system ratings, priority actions and closure without exposing sensitive protection or personal data.

9. Proposed Action Plan

The action plan translates the assessment into a sequenced implementation pathway. Timeframes are indicative and should be confirmed by the WASH Systems and Sustainability Technical Consultation Group (TCG). Priority levels reflect the consequence of delay, not a funding commitment or final capital decision.

Table 15. Proposed action plan for WASH systems and sustainability

Recommended action	Rationale	Responsible stakeholders	Supporting stakeholders	Timeframe	Priority	Expected output
Establish the WASH Systems and Sustainability Technical Consultation Group (TCG).	Provides the governance mechanism required to validate roles, agree methods, make decisions and track implementation.	WASH Sector; RRRC; DPHE/FSL	CiCs; AFAs; WASH partners; CFPs; municipalities; operators; Health/SMSD/Protection as relevant	0-1 month	Critical	Approved terms of reference, membership, secretariat, meeting calendar and 90-day workplan.
Complete targeted governance and institutional KIIs.	Governance-focused consultation was limited or missing, leaving roles, ownership, financing and transition insufficiently verified.	TCG / independent facilitation	WASH Sector; DPHE/FSL; RRRC/CiCs; AFAs/WASH partners; CFPs; relevant local authorities; technical operators	0-6 months	Critical	Validated responsibility and decision-rights matrix; unresolved issues and interim arrangements.
Protect a minimum package of essential WASH services and public-health protection functions.	Prevents essential water, sanitation/FSM, domestic-waste collection, agreed drainage-related WASH controls, soap/MHM, safe-access and alert-response functions from eroding during funding adjustments.	WASH Sector; Health Sector; RRRC/CiCs	Donors; AFAs/WASH partners; DPHE; Protection; technical operators; SCCCM/SMSD as relevant	Immediate and continuous	Critical	Agreed minimum service standards and responsible actors; costed Tier 1-3 funding scenarios by camp or service catchment; protected budget lines; and service-continuity monitoring.
Agree the all-camp minimum facility-inventory and water-system rating methodology.	The assignment did not include a full site-level facility audit; a common and proportionate method is required before rollout.	TCG; DPHE; Water TWG	AFAs/WASH partners; technical operators; GIS/IM teams; relevant local authorities	0-6 months	Critical	Approved data dictionary, unique-ID protocol, Five-Star/equivalent tool, QA plan and rollout schedule.

Recommended action	Rationale	Responsible stakeholders	Supporting stakeholders	Timeframe	Priority	Expected output
Consolidate existing facility, GIS, technical-operator, repair and monitoring records.	Reduces duplication and identifies missing or conflicting records before physical verification; detailed programme records remain with WASH partners.	WASH Sector IM; AFAs/WASH partners	DPHE; technical operators; CiCs/CFPs; relevant local authorities	0-6 months	High	Clean provisional minimum facility registry and gap list for field verification.
Conduct the priority-camp WASH facility inventory and Water Supply Five-Star/equivalent assessment.	Creates the verified baseline needed for facility management, rehabilitation, O&M budgeting and transition.	TCG; DPHE; AFAs/WASH partners; technical operators	CiCs/CFPs; municipalities; technical partners; communities	6-18 months	Critical	Verified priority-camp facility registry; system ratings; condition, service and risk profiles; community-informed rehabilitation priorities; evidence archive.
Undertake targeted water technical audits and Teknaf source-security review.	Field evidence confirms reliability problems but not source, chlorination, water-production-recording, energy or hydrogeological condition.	Water TWG; DPHE; technical operators	RRRC/CiCs; AFAs/WASH partners; groundwater/quality specialists; host representatives	6-18 months	High	Source-output balance, water-production-recording/dosing status, FRC/quality chain, energy profile, updated source- and system-specific Water Safety Plans and Teknaf dry-season plan.
Audit priority sanitation/FSM chains from user interface to disposal/end use.	High user-facing functionality coexists with poor treatment-plant indicators and heavy recurrent service pressure.	DPHE/FSL; FSM TWG; plant/desludging technical operators	AFAs/WASH partners; CiCs; OH&S and environmental specialists	6-18 months	High	Plant/route/pit profiles, corrective-action plans, compliance re-test schedule and cost data.
Audit MRFs, door-to-door collection routes, SCCCM/SMSD-led drainage hotspots and residual-disposal continuity.	Field evidence confirms collection and drainage-related risks, while MRF material flow, route efficiency and landfill continuity remain unverified.	SWM TWG; SCCCM/SMSD; WASH partners and technical operators	AFAs/WASH partners; CiCs/CFPs; relevant local authorities; recyclers/landfill actors	6-18 months	High	MRF material-flow profiles, route-time results, joint drainage-risk/waste plans and disposal contingency.
Implement point-of-use hygiene, MHM, safe-access and complaint-closure monitoring.	Field verification strongly confirms enabling-environment, safety and accountability gaps.	Hygiene leads; WASH partners; CFPs	Protection/GBV; CiCs; community structures; accessibility specialists	0-6 months and ongoing	High	HWF readiness KPI, MHM adequacy data, safety/access retrofit list and a classified, verified complaint-closure dashboard.

Recommended action	Rationale	Responsible stakeholders	Supporting stakeholders	Timeframe	Priority	Expected output
Strengthen and link existing EWARS, JART and WASH arrangements through one shared trigger, action and closure protocol.	Surveillance is strong, but WASH corrective-action closure is not consistently visible; existing records should be connected rather than duplicated.	Health Sector/WHO; WASH Sector	CIC/CFP; AFAs/WASH partners; DPHE/FSL; technical operators	0-6 months	High	Joint protocol using existing systems, named owners, response timelines, post-action verification and escalation dashboard.
Standardise partner O&M, preventive-maintenance and whole-life cost ledgers, with a limited common Sector summary.	Cost and efficiency cannot be assessed from activity counts or partial records.	WASH Sector; donors; AFAs/WASH partners	Technical operators; DPHE/FSL; relevant local authorities; finance/IM teams	6-18 months	High	Partner templates and first reporting cycle covering labour, energy, fuel, spares, chemicals, routes, output, downtime and infrastructure improvement; common Sector summary fields.
Prepare camp-wise sustainability, rehabilitation and replacement plans.	Converts verified condition and service evidence into prioritised action and financing needs.	TCG; AFAs/WASH partners; technical operators	DPHE; RRRC/CiCs; donors; municipalities	12-24 months	High	Camp profiles, risk-based rehabilitation pipeline, preventive O&M plan and replacement/improvement schedule.
Strengthen WASH-partner and technical-operator competencies and accountability.	Sustainable service depends on competent WASH partners and technical operators, clear roles, tools, supervision and safe practice.	AFAs/WASH partners; technical operators; technical working groups	DPHE/FSL; RRRC/CiCs; training providers	6-18 months	High	Competency framework, staffing and training plan, SOPs, supervision and performance review.
Develop an integrated Teknaf and host-interface WASH plan.	Teknaf and nearby host areas combine source, sanitation, drainage, municipal and public-health risks.	RRRC; DPHE; municipalities; WASH Sector	AFAs/WASH partners; technical operators; Health Sector; host representatives; donors	6-18 months	High	Integrated source, service, environmental, preparedness, institutional and investment plan.
Develop staged transition, handover and financing scenarios.	Immediate handover is unsupported; longer-term sustainability requires verified liabilities, mandate, capacity and financing.	RRRC; DPHE; municipalities; WASH Sector	TCG; technical operators; donors/development partners; legal/policy and protection specialists	12-24 months	Strategic	Transition principles, readiness criteria, system-specific options, financing and risk-allocation scenarios.

Recommended action	Rationale	Responsible stakeholders	Supporting stakeholders	Timeframe	Priority	Expected output
Institutionalise minimum facility management and periodic re-rating.	Sustains the evidence base and prevents the facility registry from becoming obsolete.	DPHE/WASH Sector/RRRC as agreed	AFAs/WASH partners; relevant local authorities; technical operators; IM teams	24+ months	Strategic	Authoritative minimum facility registry, annual/risk-based re-rating, public summary dashboard and budget linkage.

Action plan Consolidated from sub-sector desk reviews [2]-[6], Field Data Verification [7], and the assignment requirements. Timeframes should be validated by the WASH Sector.

References

The assessment report uses only the provided project source documents. The five technical desk reviews/evidence streams contain their own detailed underlying reference lists; those sources are not reproduced here as independent evidence.

- i. [1] WASH Systems and Sustainability Assessment. Consolidated Inception Report - Cox's Bazar: revised consolidated overall WASH situation analysis for all 33 Rohingya camps and nearby host communities. April 2026.
- ii. [2] Water Supply Systems & Sustainability Desk Review - Cox's Bazar: water supply systems and services for Rohingya camps and nearby host communities. May 2026.
- iii. [3] Sanitation & Faecal Sludge Management Systems and Services Desk Review - Cox's Bazar: all 33 camps and nearby host communities. May 2026 project source.
- iv. [4] Solid Waste Management Systems and Drainage Desk Review - Cox's Bazar: Rohingya camps and nearby host/urban interface. May 2026.
- v. [5] Hygiene Promotion & Behaviour Change Systems and Services Desk Review - Cox's Bazar: Rohingya camps and nearby host communities. March/May 2026 project source.
- vi. [6] Public Health Risk / AWD Desk Review - Cox's Bazar: WASH-related public-health risks for all 33 camps and nearby host communities. May 2026.
- vii. [7] Field-Level Data Verification Report - WASH Systems & Sustainability Assessment, Cox's Bazar: validation of desk-review findings using 192 valid household-level semi-structured interviews / HH-level KIIs and 12 FGDs. June 2026.

Annex A. Consolidated Evidence Map

Annex A records how the project sources contribute to the final assessment and maps the principal triangulated findings. Confidence refers to the use of each evidence stream in this report, not to a formal appraisal of every underlying dataset cited within the desk reviews.

A.1 Source evidence map

Table 16. Consolidated source evidence map

Source	Geographic and thematic scope	Main contribution	Confidence in this report	Principal limitation
Consolidated Inception Report	All 33 camps and nearby host communities; the four WASH sub-sectors and the cross-cutting public-health/AWD domain.	Primary report structure, systems framing, cross-cutting judgement, host-interface logic and combined priorities.	High for framing and synthesis.	Inception product; does not include the later field-verification results.
Water Supply Desk Review [2]	All camps and host-water interface.	System scale, water archetypes, all-camp screens, chlorination, source security, O&M and Teknaf risk.	Medium-high.	Mixed indicators and dates; no all-camp physical facility and cost audit.
Sanitation & FSM Desk Review [3]	All camps and host-sanitation interface.	User-facing/downstream treatment contrast, COD and desludging pressure, technology, safety, route and governance needs.	Medium-high.	Treatment plant, route, pit, technical-operator and cost evidence requires current verification.
Solid Waste & Drainage Desk Review [4]	All camps and host/urban interface.	SWM architecture, camp variation, drainage link, MRF/residual-disposal and governance risk.	Medium-high.	Operational workbooks have completeness, date and traceability limitations.
Hygiene Desk Review [5]	All camps and nearby host communities.	Enabling environment, HWF, soap, MHM, safe access, volunteers, complaints and host context.	High for user-facing and enabling interpretation.	Direct point-of-use functionality, cost and community-structure performance require verification.
Public Health/AWD Desk Review [6]	All camps and host communities.	Cholera/AWD interpretation, JART service evidence, vulnerability screens and surveillance-to-action gap.	High for response-wide trend interpretation.	No clean denominator-based all-camp incidence and verified closure dataset.
Field Data Verification [7]	Selected Camp 5, Camp 27, KRC, NRC and Hnila/Whykong/Palongkhali host-interface sites.	Direct household/FGD evidence on water, hygiene, MHM, safety, complaints, waste, drainage and service environment.	High for selected-site lived experience.	Purposive; not representative, all-camp, technical, financial or governance-complete.

A.2 Thematic triangulation map

Table 17. Thematic evidence and triangulation status

Theme	Inception/desk evidence	Field Data Verification	Assessment status	Next evidence layer
Water quantity and sufficiency	Desk reviews identify uneven l/p/d and household sufficiency.	Source switching, queues, insufficient or intermittent adequacy confirmed.	Triangulated for selected sites.	All-camp service and asset rating; production/output reconciliation.
Water quality and chlorination	Process-control, FRC and measurement weaknesses identified.	Perceptions only; no live FRC/E. coli or dosing records.	Partially triangulated.	FRC chain, microbial testing, dosing/calibration, water-production-recording and QA/QC audit.
Teknaf source security	Multi-source, dry-season, reservoir, groundwater and salinity risk.	Scarcity, coping, private supply and timing concerns confirmed.	Partially triangulated.	Groundwater, reservoir, EC/TDS, abstraction, rainfall and host-source evidence.
Sanitation access and safety	High reported user-facing functionality; safety and load variation.	Unsafe access, avoidance, privacy and overflow concerns confirmed.	Triangulated for user-facing aspects.	Facility audit, pit geometry/fill rate and all-camp condition verification.
FSM treatment and cost	Poor COD compliance, high desludging and route/technology pressure.	No plant, route or cost data.	Unresolved technical finding.	Plant logs, DPHE/FSL results, route-time, contractor/O&M and disposal/end-use data.
SWM collection and segregation	Architecture mature; camp/block service varies.	Missed collection and mixed/partial segregation confirmed.	Triangulated for selected sites.	All-camp route and service verification.
Drainage and environmental cleanliness	Waste, blocked drains, stagnant water and flooding linked.	Blocked drains and stagnant water strongly confirmed.	Strongly triangulated.	SCCCM/SMSD-led drain hierarchy and hotspot audit, wastewater-quality review and agreed WASH waste/public-health responsibility audit.
MRF/residual/I and fill chain	Throughput, market linkage and residual continuity are critical.	Household/FGD data cannot test mass balance or landfill status.	Partially triangulated.	MRF logs, stock, recycler sales/pickups, residual transfer and contingency.
HWF and soap at point of use	Possession differs from point-of-use readiness.	No soap at HWF and low water+soap readiness strongly confirmed.	Strongly triangulated.	All-camp direct spot checks and refill/repair responsibility.
MHM adequacy and privacy	Adequacy, refill, affordability, washing/drying and disposal are bottlenecks.	Insufficiency, limited top-up and partial privacy/disposal confirmed.	Strongly triangulated.	Adolescent/PWD-inclusive assessment, supply/cost and facility observation.
Safe access and inclusion	Lighting, privacy, routes and accessibility shape use.	Unsafe night access and facility avoidance strongly confirmed.	Strongly triangulated.	All-camp women-led safety and accessibility audit.
Complaint closure	Desk reviews identify weak visible corrective action.	Only 18 of 99 complaint-makers reported complete action.	Strongly triangulated.	Administrative and user-verified closure tracking.
Public-health service environment	Water, sanitation, drainage, waste, soap and access jointly shape risk.	Multiple service-environment gaps confirmed.	Strongly triangulated.	Link service data to epidemiological and JART closure records.
EWARS/JART closure	Need for trigger-to-action-to-closure log.	No health alert or closure-log data in field package.	Unresolved administrative finding.	Joint record review, named actions and post-action verification.

Theme	Inception/desk evidence	Field Data Verification	Assessment status	Next evidence layer
Whole-life cost	Missing harmonised O&M and cost ledgers.	No cost data in household/FGD files.	Requires further investigation.	Common ledger, unit definitions, output, downtime and renewal liability.
Governance and transition	Roles need verification; immediate handover not assumed.	User-facing channels visible but no institutional KII dataset.	Requires further investigation.	TCG, role KIIs, infrastructure ownership, mandate, capacity, financing and transition analysis.

Annex B. Nearby Host-Community and Urban Interface Summary

The camp-host interface is a core sustainability and public-health issue because sources, environmental pathways, markets, disposal routes, surveillance systems and public institutions cross administrative and programme boundaries. The evidence is thinner than for camps and should guide targeted validation rather than final design.

Table 18. Nearby host-community and urban interface summary

Interface	What the source documents indicate	What Field Data Verification adds	Priority follow-up
Teknaf municipality and nearby host areas	Most important combined water-scarcity, mixed-source, sanitation, municipal and public-health interface. Dry-season and salinity-sensitive decisions require integrated management.	Host-interface FGDs describe scarcity, bad timing, private-supplier coping, requests for networks/deep tube wells and some tension.	Integrated source/service plan; municipal and DPHE KIIs; source, reservoir, EC/TDS/salinity and affordability analysis; sanitation/FSM and waste/disposal interfaces.
Hnila	Host-community source and service risks are linked to Teknaf-area seasonality and camp-host planning.	Thirty-five household interviews and FGDs contribute evidence on water, MHM, safety, drainage and coping.	Source and service mapping, household cost/affordability, drainage and sanitation checks, local-authority role validation.
Whykong	Desk evidence highlights seasonal source variation and the need to monitor groundwater and host impacts.	Fifteen household interviews and FGDs report water scarcity, service and environmental concerns.	Groundwater/source monitoring, service access and cost, host-camp interaction and institutional oversight.
Palongkhali/U khiya	Peri-camp interface around the megacamp requires continued source and service monitoring; evidence is less complete than in Teknaf.	Twenty-six household interviews confirm water, drainage, hygiene and safety issues but not a uniform host-worse pattern.	Balanced camp-host sample, source and drainage mapping, service-level and affordability comparison.
KRC / peri-camp megacamp interface	Desk reviews identify water, hygiene, waste and sanitation signals in and around KRC; shared catchments and public-health pathways matter.	KRC was included in household and FGD verification and shows user-facing reliability and enabling-environment concerns.	Asset and service-chain audit; peri-camp host interface; safe access, complaint and waste/drainage checks.
Wider host and urban service systems	Host sanitation, hygiene and SWM evidence is less complete; local-authority functions are important for regulation, disposal, markets and long-term oversight.	Seventy-four host-interface interviews confirm that host issues belong in the assessment frame.	Municipal/DPHE role and capacity review; host asset/service baseline; environmental and public-health pathway assessment; financing and equity analysis.

Host-interface caution

The field sample supports including host communities in WASH planning, but it does not show that host households are worse than camp households on every metric. Differences should be assessed by season, source, cost, distance, quality, sanitation service, drainage, affordability and institutional coverage.

Shared infrastructure or service models should be designed only after verifying technical feasibility, mandate, public-health safeguards, protection and equitable access for both camp and host populations.

Annex C. Claim-Level Validation Matrix (38 Claims)

This annex reproduces the 38 claims used in Field Data Verification. Claim statements use the terminology agreed during WASH Sector review. The controlling validation status is 19 supported, 14 partially supported and 5 requiring further investigation; no claim was contradicted or invalidated. Confidence is high for 18 claims, medium for 16 and low for 4.

Claim ID	Sector / theme	Revised claim statement	Status / confidence	Evidence and interpretation	Recommended action
W1	Water supply	The installed water supply system is already substantial; sustainability depends on O&M, improvement, water production recording and governance rather than simple expansion.	Partially supported by field data Medium confidence	Desk review: 298 networks, 320 production boreholes, 768 reservoir tanks and >7,000 tapstands cited in the desk review. Interpretation: Field perception data cannot confirm infrastructure inventory or system-level O&M condition.	Follow up engineering facility audit, flow meter check, production logs and O&M ledger review- Next 5 star assessment.
W2	Water supply	Water quantity and household sufficiency are uneven across camps and priority sites.	Supported by field data High confidence	Desk review: Desk review reports 17 camps below 25 l/p/d and 21 below 90% household sufficiency. Household/KII: 120 (62.5%) reported source switching; 30 (15.6%) said water was not enough and 127 (66.1%) said only enough sometimes; main switching reasons included not enough quantity (79), long queues (63), source closed when needed (41), and distance/access (33). FGD: 11/12 FGDs reported not enough water, 8/12 long queues, and 9/12 bad timing; 9/12 prioritized better water service. Interpretation: Multiple field sources show water sufficiency, queueing, timing and source-switching problems in the validation sites.	Prioritize water service reliability, operating hours, queue management and source-by-source verification in sites with high switching or not-enough reports.
W3	Water supply	Households may bridge formal network deficits by shifting sources or using secondary sources.	Supported by field data High confidence	Desk review: Desk review warns household sufficiency can mask network-output gaps because households use fallback sources. Household/KII: 120 (62.5%) reported source switching; 30 (15.6%) said water was not enough and 127 (66.1%) said only enough sometimes; main switching reasons included not enough quantity (79), long queues (63), source closed when needed (41), and distance/access (33). FGD: FGDs reported waiting for supply, using ponds or private suppliers in some locations, and searching for nearer safe water. Interpretation: Source switching and coping behaviour were directly observed in the household dataset and repeated in FGDs.	Map source-switching routes and compare household coping with production/output records.
W4	Water supply	Service timing and predictability affect effective water access.	Partially supported by field data Medium confidence	Desk review: Desk review highlights supply windows, tapstand siting and operating hours as determinants of effective service. Household/KII: 25 (13.0%) reported often or very unpredictable water access. FGD: 9/12 FGDs reported bad timing. Interpretation: Field evidence supports timing as a problem, but most households still reported predictable or mostly predictable supply; severity varies by site.	Disaggregate service timing by site/block and compare with actual hours-of-service logs.
W5	Water quality / chlorination	The main water-quality vulnerability is network/process control, including FRC, chlorination hardware and monitoring.	Partially supported by field data High confidence	Desk review: Desk review cites weak FRC and chlorination control; public-health review says water quality must be read with FRC and other controls. Household/KII: No live FRC, E. coli, dosing-pump or tank/tapstand	Use WASH sector Dash board FRC chain checks, E. coli sampling where indicated, and dosing/stock/calibration audit.

Claim ID	Sector / theme	Revised claim statement	Status / confidence	Evidence and interpretation	Recommended action
				records were provided in HH data; some households reported taste/iron/chlorine perceptions. FGD: FGDs included some trust/taste perceptions but no measured FRC or microbial results. Interpretation: Field perceptions cannot confirm or refute chlorination or E. coli findings.	
W6	Water supply / Teknaf-host interface	Teknaf and host-interface sites face source security, dry-season and multi-source operating stress.	Partially supported by field data Medium confidence	Desk review: Desk reviews distinguish Teknaf as structurally more water-stressed and multi-source than Ukhiya. Household/KII: Host-interface household data: 74 interviews; 12 reported not enough water, 32 reported source switching, 28 reported often-blocked drains, and several field notes referenced iron-rich or private-supplier water. FGD: Host-interface FGDs reported water scarcity, bad timing, host tension in 2/12 FGDs, and requests for water networks/deep tube wells. Interpretation: Community evidence supports water stress and coping, but no groundwater, reservoir, salinity or abstraction data were available.	Integrate household/FGD findings with groundwater records, reservoir dashboard, source mapping and host-source KIIs.
W7	Water data systems	System-by-system O&M ledgers, water production recording, energy, fuel and production records are required to validate cost-efficiency.	Requires further investigation Low confidence	Desk review: Desk review identifies missing O&M ledgers and weak records; TOR asks for technical data requests and cost capture. Household/KII: No partner ledgers, meter data, fuel data or asset-age data were included in the household CSV. FGD: FGDs did not provide technical records. Interpretation: The claim is a data-gap finding that cannot be tested through HH/FGD files.	Request standardized O&M ledger, water-production-recording functionality log, fuel/runtime records and production-output reconciliation.
W8	Host-community water conditions	Host-community water sufficiency is weaker and should be treated as part of WASH sustainability.	Partially supported by field data Medium confidence	Desk review: Desk reviews cite 62% host-community households with enough water and a shared camp-host public-health geography. Household/KII: Host-interface interviews show 12/74 not enough water and 32/74 source switching; camp interviews showed 18/118 not enough water and 88/118 source switching, so field data do not show a simple host-worse pattern on all metrics. FGD: Host FGDs did report scarcity, private water-supplier coping and host tension. Interpretation: The field data support host-interface risk but do not fully validate that host households are uniformly worse than camp households in this sample.	Use a larger and better-balanced camp-host sample and align indicators to water sufficiency, cost, distance, quality and seasonality.
H1	Hygiene enabling environment	Behaviour-change bottlenecks are mainly enabling-environment issues, not awareness alone.	Supported by field data High confidence	Desk review: Desk reviews emphasize water, soap, HWF functionality, safe access, MHM and complaint response as behaviour determinants. Household/KII: Household evidence shows major gaps in water (120 (62.5%) switching), point-of-use soap (89 (46.4%) no soap at HWF), safety (123 (64.1%) avoiding communal facilities), and drainage (141 (73.4%) stagnant water after rain). FGD: 8/12 FGDs said services were worse overall; FGDs repeatedly referenced operational gaps, water scarcity, soap insufficiency, night safety and waste/drainage issues. Interpretation: Both quantitative and qualitative field data show that practice is constrained by service conditions.	Frame programme actions around enabling inputs and service reliability, not only messaging.

Claim ID	Sector / theme	Revised claim statement	Status / confidence	Evidence and interpretation	Recommended action
H2	Hygiene / soap	Soap possession is not the same as soap available at the handwashing point.	Supported by field data High confidence	Desk review: Desk review highlights higher household soap observation than point-of-use soap availability. Household/KII: Household soap was available in 132 (68.8%), but soap was absent at the handwashing place in 89 (46.4%); only 44 (22.9%) had both water and soap, while no-water and no-soap issues were recorded 127 and 112 times. FGD: All 12/12 FGDs reported soap not enough; 5/12 reported no water at HWF and 3/12 reported soap not at point of use. Interpretation: The field data directly show the gap between household soap availability and handwashing-point readiness.	Track soap possession, soap at HWF, and water at HWF as separate indicators.
H3	Handwashing infrastructure	Communal handwashing facilities are often incomplete, missing water or soap, broken, poorly located or unsafe.	Supported by field data High confidence	Desk review: Desk review calls for presence, water, soap and functionality as separate variables. Household/KII: Only 44 (22.9%) reported HWF with both soap and water; 55 had neither and 35 had no fixed place. Issues included no water (127), no soap (112), broken device (23), empty container (27) and poor location (15). FGD: 5/12 FGDs reported no water at HWF and 3/12 soap not at point. Interpretation: Field evidence confirms point-of-use handwashing reliability gaps.	Use direct HWF spot checks at latrines, bathing spaces, schools/health posts and households; assign O&M/refill responsibility.
H4	MHM adequacy	Communities need more MHM support with adequate quantity and quality, appropriate refill frequency and a realistic ability to top up.	Supported by field data High confidence	Desk review: Desk review states quality satisfaction is high but kit adequacy, affordability and refill frequency are weak. Household/KII: Among MHM-relevant household responses, 80 reported partly enough and 36 not enough, against only 17 enough between refills; top-up was only sometimes possible for 97 and not possible for 21. FGD: 9/12 FGDs reported MHM not enough and 3/12 could not buy top-ups. Interpretation: Field data strongly support adequacy and top-up constraints; field did not systematically test product quality.	Protect MHM minimum package and verify refill cycle, household size and adolescent-specific needs.
H5	MHM privacy/disposal	Private washing, drying and disposal arrangements are a material constraint for menstrual hygiene.	Supported by field data Medium confidence	Desk review: Desk review highlights washing/drying/disposal and privacy constraints. Household/KII: MHM privacy was partly difficult in 74 responses and not workable in 7; disposal was partly manageable in 75 and not manageable in 16. FGD: FGDs described lack of private washing in 1/12 groups, water constraints for menstrual hygiene, borrowing/buying products, and social barriers to discussing MHM. Interpretation: Field findings support the privacy/disposal dimension, though the intensity varies by group and site.	Add female-led observation and FGD modules for MHM washing, drying, disposal and adolescent barriers.
H6	Safe access and inclusion	Night-time safety, lighting, route condition, privacy and inclusive access shape WASH facility use.	Supported by field data High confidence	Desk review: Desk reviews repeatedly identify night safety, lighting, privacy, route safety, ramps/rails and complaint visibility as core service issues. Household/KII: 26 (13.5%) reported women/girls mostly unsafe at night, 93 (48.4%) safe only sometimes, and 123 (64.1%) avoided communal facilities; key barriers were poor lighting (64), poor route condition (41), and distance (38). FGD: 9/12 FGDs reported unsafe night access; 6/12 reported poor lighting and 4/12 poor privacy.	Prioritize night-safety walks, lighting/locks/privacy retrofits and accessibility audits.

Claim ID	Sector / theme	Revised claim statement	Status / confidence	Evidence and interpretation	Recommended action
				Interpretation: Household and FGD data consistently identify unsafe night access, poor lighting and avoidance/coping.	
H7	Accountability / complaints	Complaint closure and visible corrective action are uneven and should become a service KPI.	Supported by field data High confidence	Desk review: Desk reviews cite weak complaint closure and recommend tracing complaints to closure. Household/KII: 99 (51.6%) had made a complaint; among those, outcomes were partial (69), complete (18), none (8), or don't know (4). FGD: FGDs repeatedly described slow or ineffective response through volunteers, partner staff or complaint boxes; only 1/12 selected 'better complaints' as a priority action, but narratives described delayed response and reduced trust. Interpretation: Only 18 of 99 complaint-makers reported complete action; qualitative evidence points to slow response.	Trace sample complaints from log entry to closure and verify closure with users.
H8	Community structures / role clarity	Volunteer/user-group models need role clarity; volunteer presence alone does not prove effectiveness.	Partially supported by field data Medium confidence	Desk review: Desk review flags role overlap and need for clearer problem-solving functions. Household/KII: Complaint channels were mainly volunteer/committee (75) when complaints were made; HWF responsibility was household (69), volunteer/committee (47), don't know (25), no clear owner (20), or neighbour/shared user (20). FGD: FGDs referred to volunteers and community leaders but also described delayed response and reduced trust. Interpretation: Field data support role-clarity concerns, but no KII with volunteers/CHWs or committee functionality data was provided.	Conduct targeted KIIs with volunteers, CHWs, committees and users; verify task ownership and escalation authority.
S1	Sanitation access/functionality	Sanitation access and end use are largely holding at sector level.	Partially supported by field data Medium confidence	Desk review: Desk review reports 49,471 latrines, 26,129 bathing facilities and 96-98% functionality. Household/KII: Household data shows continued communal facility use but does not measure functionality, latrine counts or technical condition. FGD: FGDs reported sanitation use but also unsafe night access, overflow and cleanliness issues. Interpretation: The provided field data cannot verify sector-level infrastructure functionality; user experience suggests service problems but not asset functionality rates.	Conduct inventory of Sanitation facilities similar to Water "5 star" assessment.
S2	FSM treatment compliance	downstream treatment FSTP treatment compliance is weak, with only 21-22% acceptable COD in 2024-2025.	Supported by field data High confidence	Desk review: Desk review cites 21-22% COD compliance and widespread below-threshold performance. Household/KII: No plant-level COD, effluent or FSL sample records in HH data. FGD: FGDs reported overflow/delayed desludging but not treatment compliance. Interpretation: Treatment performance cannot be confirmed or rejected without plant/lab records.	Review DPHE/FSL results, plant logs, design load, uptime/downtime, effluent quality and corrective actions.
S3	Desludging pressure	Desludging is a recurrent pressure point, with increasing emptying frequency and high 2025 activity.	Partially supported by field data Medium confidence	Desk review: Desk review cites 155,739 desludging actions, 65,593 latrine repairs and 18,778 bathing repairs. Household/KII: Household files did not include desludging frequency, but safety/waste notes and affected locations included latrines in 78 cases. FGD: 6/12 FGDs reported sanitation overflow; some narratives	Add route/time-motion checks, pit inspection, desludging logs and contractor KIIs.

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				referenced delayed desludging during rainy season. Interpretation: User evidence supports overflow/delay concerns, but not the scale of reported desludging activity.	
S4	Camp differentiation	Camp conditions differ sharply; one FSM/service model will not fit all camps.	Supported by field data High confidence	Desk review: Desk review identifies different priority strata and positive deviants. Household/KII: Site-level household profiles vary: e.g., missed collection ranges from 6/26 in Palongkhali to 21/25 in NRC; source switching ranges from 10/26 in Palongkhali to 27/34 in Camp 5; stagnant water is high in most sites but with variation. FGD: FGDs include both worse and better/satisfied groups across sites, with 8 worse, 3 better and 1 same overall. Interpretation: Field results vary materially by site and respondent group, supporting camp/site-specific programming.	Keep site archetype approach and avoid blanket recommendations.
S5	Sanitation safety	Women's and girls' night-time safety is a sanitation service issue, not only a protection issue.	Supported by field data High confidence	Desk review: Desk review reports safety deficits and 10 camps below 60% night safety. Household/KII: 26 (13.5%) reported women/girls mostly unsafe at night, 93 (48.4%) safe only sometimes, and 123 (64.1%) avoided communal facilities; key barriers were poor lighting (64), poor route condition (41), and distance (38). FGD: 9/12 FGDs reported unsafe night access; 6/12 reported poor lighting and 4/12 poor privacy. Interpretation: Night safety concerns are directly and repeatedly reported in both field methods.	Install/repair lighting, locks and privacy features and validate through women-led night-safety walks.
S6	Host-community sanitation interface	Sanitation sustainability cannot be understood only inside camp boundaries; host sanitation is weaker and linked to camp sustainability.	Partially supported by field data Medium confidence	Desk review: Desk review cites 45.64% basic sanitation, 3.52% safely managed sanitation and 7.6% open defecation in JRP host area. Household/KII: Host-interface household interviews reported water, soap, drainage and safety problems but did not measure sanitation service level against basic/safely managed standards. FGD: Host FGDs described private water suppliers, host tension, sanitation overflow/privacy issues and requests for private latrine/bathing installations. Interpretation: Host interface concerns are supported, but the specific desk-review sanitation service-level percentages were not measured in the field files.	Include host sanitation service-level observation and local-government/DPHE KIIs.
S7	FSM technology/cost	Technology choice, transfer mode and cost require plant-level and route-level validation before decisions.	Requires further investigation Low confidence	Desk review: Desk review cites technology performance and transfer-cost comparisons; TOR requests plant/cost/route records. Household/KII: No plant, route, contractor or cost data in HH CSV. FGD: No plant/route data in FGDs. Interpretation: This is a technical evidence gap rather than a user perception claim.	Collect plant-level logs, route-time data, contractor rates, O&M costs and IFSTN feasibility data.
SW1	SWM architecture and performance	The SWM service chain is mature in design but uneven in performance.	Supported by field data High confidence	Desk review: Desk review cites 67 operational MRFs and a mature service architecture but uneven execution. Household/KII: Collection was sometimes irregular in 80 households and mostly absent in 43; 106 (55.2%) reported missed collection; segregation was full in 76, partial in 61, and absent in 55. FGD: 8/12 FGDs reported no collection, 7/12 mixed waste, and 9/12	Maintain the harmonised door-to-door domestic-waste model and adapt routes, frequency, staffing and access arrangements and validate weak blocks/routes.

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				prioritized better SWM/drainage. Interpretation: Field data show mixed reliability: some households report regular collection, but many report irregular or absent service and missed collection.	
SW2	Waste collection and segregation	Segregation and collection are uneven, with no-collection and mixed-waste pockets.	Supported by field data High confidence	Desk review: Desk review lists weak segregation and no-collection pockets in several camps. Household/KII: Collection was sometimes irregular in 80 households and mostly absent in 43; 106 (55.2%) reported missed collection; segregation was full in 76, partial in 61, and absent in 55. FGD: 8/12 FGDs reported no collection, 7/12 mixed waste, and 9/12 prioritized better SWM/drainage. Interpretation: Both field datasets strongly support uneven collection and segregation problems.	Target collection reliability, bins/two-bin use, household feedback and route supervision in weak blocks.
SW3	Drainage linkages	Drainage, blocked drains, waste and stagnant water are operationally inseparable.	Supported by field data High confidence	Desk review: Desk review links waste accumulation, blocked drains, stagnant water and flood risk. Household/KII: Drains were blocked sometimes in 109 households and often in 54; 141 (73.4%) reported stagnant water after rain. FGD: 6/12 FGDs reported blocked drains and 3/12 reported standing water. Interpretation: Household and FGD data strongly support the drainage-SWM linkage.	Use drain transects, post-rain checks and SCCCM/MSMD-WASH micro-plans.
SW4	Drainage hotspots	Drainage-waste handling requires targeted validation in hotspot camps such as 09, 15, 12, 27 and 24.	Partially supported by field data Medium confidence	Desk review: Desk review identifies high drainage-waste handling in specific camps. Household/KII: The household sample covers Camp 27 and Camp 5/KRC/NRC but not Camp 09/15/24/12; Camp 27 had 10/28 reporting often-blocked drains and 23/28 stagnant water. FGD: Camp 27 FGDs reported blocked drains and no collection; other named hotspot camps were not sufficiently covered in the FGD sample. Interpretation: Field supports concern in Camp 27, but does not cover all desk-review hotspot camps.	Field-validate all listed hotspot camps, including Camp 09, 15, 12, 27 and 24.
SW5	MRF/residual/landfill continuity	MRF material flows, residual storage, recycler linkages and landfill continuity require facility-level verification and contingency planning.	Partially supported by field data Medium confidence	Desk review: Desk review highlights MRF inventory, recycler linkage, residual disposal and landfill continuity risks. Household/KII: Household data only captures collection, segregation, drains and household effects. FGD: FGDs mention collection/mixed waste but not MRF mass balance or landfill continuity. Interpretation: Field user data cannot validate MRF/residual chain performance.	Review MRF logs, stock balances, recycler sales/pickups, residual transfer and landfill contingency.
SW6	SWM cost-efficiency	Cost-efficiency cannot be judged only by kilograms moved; route-time and cost capture are required.	Requires further investigation Low confidence	Desk review: Desk review cites need for unit-cost and route-time evidence. Household/KII: No cost or route-time data in household CSV. FGD: No cost or route-time data in FGDs. Interpretation: User reports of service reliability do not provide cost-effectiveness evidence.	Conduct route-time study and standardized SWM/drainage cost capture.

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SW7	SWM/drainage governance	SWM/drainage failures reflect governance and accountability gaps as well as technical issues.	Partially supported by field data Medium confidence	Desk review: Desk review emphasizes role clarity, camp KPIs, SCCC/SMSD-WASH micro-plans and accountability. Household/KII: Complaints on drains/flooding were recorded 45 times; waste collection complaints were recorded 4 times if available, with overall complaint closure often partial. FGD: FGDs described delayed waste response, lack of wastebins, no collection, and response mechanisms that sometimes work slowly. Interpretation: Field data support accountability concerns but do not map formal role divisions.	Interview AFAs, CFPs and WASH partners, CiCs and SMSD actors and trace unresolved drain/waste complaints.
P1	Public health	Confirmed cholera transmission is interrupted, but AWD/diarrheal risk remains active.	Supported by field data High confidence	Desk review: Desk review cites 59 culture-confirmed cholera cases in 2025, no deaths, suspected activity in 2026, and ongoing AWD/diarrheal burden. Household/KII: Disease surveillance or clinical case data shared by WASH sector FGD: FGDs mentioned increased diseases, AWD concerns and mosquito/odour effects, but not verified case data. Interpretation: Field data are perception-based and cannot verify epidemiological claims.	Use WHO/EWARS/Civil Surgeon camp-level extraction and alert-closure review.
P2	Public health / service environment	The biggest controllable public-health risk is the service environment: water, chlorine/quality, sanitation, drainage, soap and safe access.	Supported by field data High confidence	Desk review: Desk review states public-health risk depends on preventive WASH conditions, not water quality alone. Household/KII: Field evidence confirms service-environment gaps across water (120 (62.5%) source switching), soap/HWF (89 (46.4%) no soap at HWF), safety (123 (64.1%) avoiding communal facilities), and drains (141 (73.4%) stagnant water). FGD: FGDs reported not enough water (11/12), sanitation unsafe night (9/12), soap not enough (12/12), MHM not enough (9/12) and no collection (8/12). Interpretation: Multiple field indicators support the desk-review service-environment risk model.	Use integrated WASH risk management rather than siloed issue response.
P3	Public health prioritization	Very-high warning camps and priority sites should be field-validated first.	Partially supported by field data Medium confidence	Desk review: Desk review uses a vulnerability screen, not disease-incidence ranking; TOR prioritizes selected deep-dive sites. Household/KII: Camp 27 and Camp 5 household data show water, soap, safety, waste and drainage problems; however, several very-high-warning camps were not covered or not deeply covered. FGD: Camp 27 and Camp 5 FGDs support service weakness; not all warning camps were covered. Interpretation: Available field evidence supports concern in some priority sites but not the full warning screen.	Complete the planned priority-site validation and maintain a light verification layer for all 33 camps.
P4	Surveillance-to-action	EWARS/Health-WASH alert closure needs a trigger-and-closure log linked to WASH corrective action.	Supported by field data High confidence	Desk review: Desk review recommends one EWARS-WASH trigger, closure log and matched trend dashboard. Household/KII: Health alert, EWARS or closure-log data shared by WASH sector FGD: No health alert closure data in FGDs. Interpretation: The field data provided cannot test alert-to-action closure.	Review recent alerts with WHO/Health Sector/WASH Sector and trace WASH corrective actions to closure.

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G1	Groundwater/source security	Groundwater and Teknaf source risks require continued and coordinated monitoring of water levels, EC/TDS, abstraction, reservoir status and host-community impacts.	Partially supported by field data Medium confidence	Desk review: Groundwater review identifies dry-season water shortage in Teknaf, salinity/EC monitoring needs and host-community implications. Household/KII: Household host-interface evidence supports water stress and source switching but includes no groundwater, EC/TDS or abstraction data. FGD: Host FGDs described water scarcity, private suppliers, host tension and requests for water networks/deep tube wells. Interpretation: Community evidence supports the need for source-security validation but does not verify hydrogeological risk.	Collect groundwater/source monitoring data and link with household coping and host-interface KIIs.
G2	Within WASH Sector cost	Within the WASH Sector, cost and O&M data are not harmonised; whole-life costing requires standardised partner ledgers and a limited common Sector summary.	Requires further investigation Low confidence	Desk review: Desk reviews repeatedly identify missing cost ledgers and technical records. Household/KII: No cost ledgers in household data. FGD: No cost ledgers in FGD data. Interpretation: HH/FGD data cannot validate cost-effectiveness or unit cost claims.	Implement standardized cost templates across water, sanitation/FSM, SWM/drainage and hygiene supplies.
G3	Camp-host interface	Camp and nearby host-community conditions should be treated as one linked service and public-health geography.	Supported by field data Medium confidence	Desk review: Desk reviews and TOR emphasize camp-host links and inclusion of host-interface tranches. Household/KII: 74 host-interface household interviews show water, soap, drainage and safety issues; host sites include Hnilla, Whykong and Palongkhali/Ukhiya. FGD: FGDs in Hnilla/Whykong reported water scarcity, sanitation/privacy, MHM and waste/drainage concerns. Interpretation: Field data support the decision to include host interfaces in the assessment, though it does not provide full municipal/service-chain data.	Keep host-interface sites in the final assessment and concept-note design.
G4	Governance/localization	DPHE/FSL, municipalities, AFAs, WASH partners, CFPs and CiCs need role verification; immediate service handover is not assumed.	Requires further investigation Medium confidence	Desk review: Desk reviews identify fragmented governance and recommend staged oversight/local-authority roles. Household/KII: Household data references complaints to volunteers, committees, CiC/partner staff, but no governance interviews. FGD: FGDs reference volunteers, partner staff, CiC and local representatives but do not verify institutional mandates. Interpretation: The field files provide user-facing accountability evidence but not institutional role verification.	Create a WASH Systems and Sustainability Technical Consultation Group (TCG) with WASH Sector, DPHE/FSL, RRRC/CiCs, AFAs, WASH partners, CFPs, municipalities and technical operators.

Annex note. Household and FGD evidence is purposive and supports lived-service and enabling-environment interpretation. Technical, epidemiological, hydrogeological, cost and governance claims require the additional engineering, laboratory, administrative and institutional evidence stated in the recommended-action column.