

AASTMT

Arab Academy for Science, Technology and Maritime Transport

Sustainability Awareness and Literacy Tool-Staff (SALT-Staff)

Statistical Analysis Report — Pilot Run 2025

20% Representative Sample | N = 957 (Faculty n = 579 · Professional Employees n = 378)

Prepared by the Environmental Sustainability Committee | Assessment Coordination: Research, Data Science & University Ranking Unit (RDSU)

Administration period: September–October 2025 | Instrument: SALT- Staff Tool 2025 (Version 1.0)

1. Executive Summary

This report presents the results of the first institution-wide administration of the AASTMT “Sustainability Awareness and Literacy Tool-Staff” (SALT-Staff), conducted across a stratified 20% representative sample of AASTMT’s total staff population (2,894 FTE faculty; 1,890 professional employees). The assessment was coordinated by the Environmental Sustainability Committee in collaboration with the Research, Data Science and University Ranking Unit (RDSU).

A total of 957 respondents completed the assessment: 579 academic faculty members (representing 20.0% of faculty FTE) and 378 professional employees (representing 20.0% of total employee headcount). The combined response rate met the 20% target across all colleges and administrative departments, with stratified sampling applied to ensure proportional representation by college, role type, and years of service.

The combined institutional mean composite score is 63.5%, placing AASTMT’s staff cohort collectively at the Developing proficiency level. Faculty achieved a mean of 66.8%, approaching but not yet reaching the Proficient threshold of 70%, while professional employees scored a mean of 58.6%, within the lower Developing band.

Key Headline Findings

- Only 34.3% of the total sample (41.1% of faculty; 24.1% of professional employees) meet or exceed the institutional proficiency threshold of 70%.
- 21.9% of all respondents scored below 50%, requiring mandatory foundational sustainability modules before the next assessment cycle.
- Faculty demonstrate significantly stronger theoretical knowledge (KPIs 1, 2, 3) than professional employees, with gaps of up to +20.8 percentage points.
- Professional employees outperform faculty on operational and role-integrated KPIs (KPI 6: Institutional Application +6.5 pp; KPI 7: Role Integration +6.5 pp).
- KPI 5 (Economic Sustainability Literacy) is the most balanced KPI across both groups, with professional employees marginally outperforming faculty (+2.5 pp), reflecting administrative exposure to procurement and resource management.
- Faculty from the College of Fisheries and Aquaculture Technology (CFAT) achieved the highest mean score (79.2%) and are the only cohort to collectively reach Proficient level.
- Staff with 8–15 years of service demonstrated the highest literacy scores (72.8%), suggesting mid-career integration of sustainability in professional practice.

2. Methodology

2.1 Sampling Strategy

A proportional stratified random sampling approach was applied to ensure representativeness across the full institution. The 20% sample target was derived from each college and administrative department in proportion to its share of total staff headcount. Sampling strata were defined by: (a) staff category (academic faculty vs professional employee), (b) college or administrative department, and (c) years of service band.

Stratum	Total Population	Sample (20%)	N Completed
Academic Faculty (all colleges, all ranks)	2,894	579	579
Professional Employees (all departments)	1,890	378	378
Combined Total	4,784	957	957

2.2 Instrument Structure

The SALT-Staff Tool 2025 (Version 1.0) was used, comprising:

- Section A: Staff profile (unscored).
- Section B: Core knowledge — 12 multiple-choice questions (60 points; each correct answer = 5 points).
- Section C: Applied scenario questions — 8 multiple-choice questions (40 points; each correct answer = 5 points).
- Section D: Self-assessment Likert scale — 10 statements scored 1–5, normalised to 30% contribution to composite score.
- Section E: Training interests and open feedback (unscored, used for qualitative planning).

Sections B and C together produce a Knowledge Score (70% of composite). Section D produces an Attitudes Score (30% of composite). The 8 KPIs map across these sections as defined in the assessment framework.

2.3 Scoring and KPI Mapping

Each KPI mean was derived by extracting the subset of questions mapping to that KPI and computing the mean percentage score across all respondents in each staff group. Where a KPI maps to both an MCQ section and the Likert section (e.g., KPI 7: Role Integration), the composite KPI score was computed as the weighted average of the relevant sub-scores using the 70/30 weighting scheme. All analyses were conducted at the item level; missing responses were excluded listwise (< 2% of cases).

2.4 Proficiency Thresholds

Four proficiency levels are defined by the assessment framework: Foundational (< 50%), Developing (50–69%), Proficient (70–84%), and Advanced/Champion (85–100%).

3. Descriptive Statistics

3.1 Overall Composite Scores

Statistic	Faculty (n = 579)	Employees (n = 378)	Combined (N = 957)
Mean composite score (%)	66.8%	58.6%	63.5%
Standard deviation	±14.2	±13.7	±14.0
Median score (%)	68%	59.5%	64.1%
Min score observed (%)	22.0%	18.5%	18.5%
Max score observed (%)	97.0%	91.5%	97.0%
Section B+C mean (knowledge)	68.4%	58.9%	64.3%
Section D mean (attitudes)	62.8%	58%	61.0%
% at or above proficiency	41.1%	24.1%	34.3%
% requiring mandatory module	17.6%	28.0%	21.9%

The mean composite score for faculty (66.8%) reflects a cohort that is approaching the Proficient threshold but has not yet crossed it, with a standard deviation of ±14.2 indicating moderate dispersion — some faculty are well into the Advanced range while others remain at Foundational level. Professional employees show a tighter distribution (±13.7) at a lower overall mean (58.6%), concentrated in the mid-Developing range.

The knowledge-attitude gap is more pronounced in faculty: their knowledge mean (68.4%) exceeds their attitudes mean (62.8%) by 5.6 percentage points. For employees, knowledge (58.9%) and attitudes (58.0%) are closely aligned, suggesting that attitudinal openness to sustainability exists but is not yet underpinned by sufficient conceptual knowledge.

4. KPI-Level Analysis: Faculty vs Professional Employees

Scores represent mean % correct / agreement per KPI. Proficiency colour coding: Green = Proficient/Advanced (≥70%); Amber = Developing (50–69%); Red = Foundational (<50%).

KPI	Faculty Mean (%)	Faculty Level	Employee Mean (%)	Employee Level	Gap (Fac – Emp)
KPI 1: Sustainability Literacy Score	73.4%	Proficient	56.2%	Developing	+17.2%
KPI 2: SDG Integration Awareness	71.8%	Proficient	51.7%	Developing	+20.1%
KPI 3: Ecological & Resource Knowledge	69.3%	Developing	48.5%	Foundational	+20.8%
KPI 4: Social Impact Competency	67.1%	Developing	62.8%	Developing	+4.3%
KPI 5: Economic Sustainability Literacy	62.4%	Developing	64.9%	Developing	-2.5%
KPI 6: Institutional Application	60.8%	Developing	67.3%	Developing	-6.5%
KPI 7: Role Integration	58.6%	Developing	65.1%	Developing	-6.5%
KPI 8: Continuous Professional Development	65.2%	Developing	53.8%	Developing	+11.4%

4.1 KPIs Where Faculty Lead

Faculty outperform professional employees most substantially on the three theoretical knowledge KPIs. KPI 1 (Sustainability Literacy Score) shows the largest absolute gap (+17.2 pp), reflecting the depth of academic training and ongoing engagement with scholarly literature on sustainability frameworks. KPI 2 (SDG Integration Awareness) shows a +20.1 pp gap — the largest differential in the dataset — consistent with faculty exposure to SDG-aligned curriculum mapping, research grant requirements, and institutional policy documents. KPI 3 (Ecological & Resource Knowledge) shows a +20.8 pp gap, the widest, driven by faculty expertise particularly in marine science, environmental engineering, and fisheries disciplines.

KPI 8 (Continuous Professional Development) also favours faculty (+11.4 pp), reflecting stronger access to academic conferences, research networks, and structured CPD pathways compared to professional employees.

4.2 KPIs Where Employees Lead

Professional employees outperform faculty on the two operationally anchored KPIs. KPI 6 (Institutional Application) is +6.5 pp in favour of employees, reflecting their greater day-to-day engagement with procurement, facilities management, HR processes, and student support — contexts in which sustainability decisions are routinely made, if not always explicitly labelled as such. KPI 7 (Role Integration) similarly shows a +6.5 pp employee advantage, as operational staff more frequently integrate sustainability-adjacent practices (energy monitoring, waste management, catering) into their daily roles.

KPI 5 (Economic Sustainability Literacy) is the most balanced KPI, with employees (+2.5 pp) marginally ahead, reflecting administrative exposure to green procurement, budgeting constraints, and resource management processes.

4.3 Shared Weak Areas

KPI 4 (Social Impact Competency) is the lowest-scoring KPI for faculty (67.1%) and among the stronger for employees (62.8%), but neither group exceeds Proficient level. Social sustainability — encompassing equity, inclusion, environmental justice, and community impact — is an area where both groups show limited depth, suggesting that AASTMT's sustainability communications and training have historically skewed toward environmental topics (consistent with the institutional policy focus on SDGs 13, 14, 15) at the expense of SDGs 1, 5, 10, and 16.

5. Proficiency Level Distribution

5.1 Faculty (n = 579)

Proficiency Level	Faculty N	% of Sample	Recommended Action
Advanced / Champion (85–100%)	68	11.7%	Peer mentoring; sustainability leadership; policy working groups.
Proficient (70–84%)	170	29.4%	Advanced elective modules; research & community engagement.
Developing (50–69%)	239	41.3%	Structured workshops; mentor assignment; blended learning.

Proficiency Level	Faculty N	% of Sample	Recommended Action
Foundational (< 50%)	102	17.6%	Mandatory foundational module; 6-month reassessment.

5.2 Professional Employees (n = 378)

Proficiency Level	Employees N	% of Sample	Recommended Action
Advanced / Champion (85–100%)	20	5.3%	Peer mentoring; sustainability leadership; policy working groups.
Proficient (70–84%)	71	18.8%	Advanced elective modules; research & community engagement.
Developing (50–69%)	181	47.9%	Structured workshops; mentor assignment; blended learning.
Foundational (< 50%)	106	28.0%	Mandatory foundational module; 6-month reassessment.

The proficiency distributions reveal a concerning right-skew in both groups: the majority of respondents in both cohorts fall in the Developing band (41.3% of faculty; 47.9% of employees). The proportion at Foundational level is notably higher among employees (28.0%) than faculty (17.6%), confirming the priority of investing in staff-facing sustainability literacy programmes. The Advanced/Champion category represents 11.7% of faculty — a meaningful sustainability champion cohort that should be formally mobilised for peer mentoring and institutional policy input — but only 5.3% of employees.

6. Disaggregated Analysis

6.1 Faculty Scores by Years of Service

Years of Service	Mean Score (%)	Proficiency Level	Interpretation
< 1 year	55.3%	Foundational–Developing	New staff lack institutional context and SDG exposure.
1–3 years	61.2%	Developing	Initial training effects visible; still below proficiency threshold.
4–7 years	67.4%	Developing–Proficient	Embedded practice developing; approaching proficiency.
8–15 years	72.8%	Proficient	Peak institutional literacy; sustained engagement with sustainability.
15+ years	69.1%	Developing–Proficient	Slight regression possible — CPD engagement

Years of Service	Mean Score (%)	Proficiency Level	Interpretation
			declines post-mid-career peak.

The years-of-service analysis reveals a clear developmental arc in sustainability literacy among faculty. The slight decline among the 15+ year cohort (69.1% vs 72.8% for 8–15 years) is a statistically expected pattern: long-tenured faculty may have deeper domain expertise but lower engagement with recently developed sustainability frameworks such as the SDGs (post-2015) and the Paris Agreement. This suggests that CPD targeting is needed at both ends of the service spectrum — orientation for new staff and refresher engagement for senior faculty.

6.2 Faculty Scores by College

College / Faculty	Mean Score (%)	Level	Key Driver
Fisheries & Aquaculture (CFAT)	79.2%	Proficient	SDG 14/15 embedded in curriculum; marine ecology expertise dominant.
Engineering & Technology	74.6%	Proficient	Technical SDG integration in engineering design; strong KPI 3 & 5.
Maritime Transport & Technology	72.1%	Proficient	IMO/MARPOL regulatory awareness; high operational sustainability exposure.
Computing & Information Technology	68.5%	Developing	Strong KPI 1 (literacy); lower KPI 6 (institutional application).
Management & Technology (CMT)	64.3%	Developing	SDG 8 & 12 awareness from business curricula; lower ecological scores.
Language & Communication (CLC)	63.7%	Developing	High KPI 4 (social) via humanities; low KPI 3 (ecological).
International Transport & Logistics	66.2%	Developing	Supply chain sustainability (KPI 5); lower environmental knowledge.
Pharmacy	60.4%	Developing	Strong KPI 3 (medicinal plants, SDG 15); lower KPI 6 & 7.

The inter-college variance is the most diagnostically significant disaggregation in this report. A 18.8 pp gap separates the highest-scoring college (CFAT: 79.2%) from the lowest (Pharmacy: 60.4%). This variance is not a reflection of academic quality but of disciplinary proximity to sustainability content: colleges whose core academic programmes directly engage with environmental systems (marine biology, ecosystems, fisheries management) naturally produce faculty with deeper sustainability literacy. The implication for policy is that sustainability training must be contextualised per college — a one-size-fits-all module will not close the inter-college gap.

6.3 Employee Scores by Department

Department	Mean Score (%)	Level	Key Driver
Facilities & Campus Management	71.8%	Proficient	Closest to campus environmental operations; high KPI 6 & 7.
Student Affairs	65.3%	Developing	Social engagement (KPI 4 high); lower KPI 1 & 2 (theoretical).

Department	Mean Score (%)	Level	Key Driver
Finance & Administration	61.7%	Developing	KPI 5 strong (procurement, green finance); KPI 3 weakest.
IT & Digital Services	59.4%	Developing	KPI 1 & 8 moderate; KPI 6 & 7 below average.
HR & Training	63.2%	Developing	KPI 8 highest (CPD culture); KPI 2 & 3 below average.
Research Support & Library	67.9%	Developing	KPI 2 & 3 moderate via research support; KPI 6 strong.
Marketing & External Affairs	55.1%	Developing	KPI 4 strong; KPI 1 & 3 weakest across employee groups.
Legal & Compliance	57.8%	Developing	KPI 7 (role integration) above average; KPI 3 & 5 weak.

Facilities and Campus Management employees achieve the highest departmental mean (71.8%), reaching Proficient level — a counterintuitive but logical finding given that this department's daily operations most directly engage with energy, waste, and resource management. Marketing and External Affairs (55.1%) and Legal and Compliance (57.8%) are the lowest-scoring employee departments, indicating that sustainability is not yet embedded in communications strategy or institutional compliance frameworks — two areas with significant potential for SDG reporting leverage.

7. Findings, Gaps & Institutional Recommendations

7.1 Critical Gaps Requiring Immediate Action

- 21.9% of assessed staff (Foundational level) require mandatory sustainability modules before the next academic semester. This represents approximately 209 individuals institution-wide from the sample, projecting to approximately 1,047 staff members across the full population if rates hold.
- SDG Integration Awareness (KPI 2) is the weakest area for professional employees (51.7%) — a direct risk to AASTMT's SDG reporting credibility.
- KPI 4 (Social Impact Competency) sits in the Developing band for both groups, reflecting an institutional blind spot in the social dimension of sustainability that is inconsistent with AASTMT's publicly stated alignment with all 17 SDGs.
- Colleges of Pharmacy, Language and Communication, and Management and Technology fall below 65% mean, indicating that sustainability literacy in non-STEM faculties requires targeted interdisciplinary programming.

7.2 Priority Recommendations

- Launch a mandatory online foundational sustainability module (estimated 4–6 hours, self-paced) for all staff scoring below 50%. Target completion within the Spring 2026 semester, with a 6-month reassessment.
- Design two parallel CPD tracks: (a) a theoretical knowledge track for professional employees covering SDGs, climate science, and ecological literacy (addressing KPIs 1–3 gap), and (b) an institutional application track for academic faculty covering campus sustainability decision-making and role integration (addressing KPIs 6–7 gap).

- Establish a Sustainability Champion Programme drawing on the 11.7% of faculty at Advanced level. Champions should be formally recognised, incentivised (e.g., reduced administrative load, conference opportunities), and assigned to peer-mentoring roles within their colleges.
- Integrate social sustainability content (SDGs 1, 5, 10, 16) into all training interventions. Current institutional communications overweight SDGs 13, 14, 15 at the expense of the social and governance pillars, producing measurable literacy gaps in KPI 4.
- Contextualise sustainability training by department and college rather than applying a uniform module. Cross-college working groups should develop discipline-specific case studies (e.g., green logistics for CITL; marine SDGs for CFAT; sustainable procurement for Finance).
- Develop a dedicated sustainability induction module for new staff (Year 0 cohort scored 55.3%) delivered during orientation week, covering AASTMT's sustainability policy, the 17 SDGs, and role-specific sustainability responsibilities.
- Repeat the SALT-Staff assessment annually. The target trajectory should be: Year 2 — 55% of staff at Proficient or above; Year 3 — 65%; Year 4 — 75%.

8. Conclusion

This inaugural SALT-Staff administration establishes a defensible, quantified baseline for AASTMT's staff sustainability literacy. The composite institutional mean of 63.5% — at the upper boundary of the Developing band — is an honest and credible starting point. The differentiated performance profiles of academic faculty and professional employees provide granular, actionable intelligence that goes well beyond a binary yes/no assessment, enabling AASTMT to design targeted, efficient interventions rather than blanket training programmes.

AASTMT has a formally deployed assessment instrument, a defined proficiency framework, a statistically described staff literacy baseline, and a structured plan to raise that baseline year on year.

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AASTMT — Building a Sustainability-Literate Institution for the Future