REVENUE PERFORMANCE DIAGNOSTIC

Local Water and Sanitation Corporation - Aden (LWSCA)

EXECUTIVE SUMMARY

Analysis Period: January 2017 - June 2025 (102 months)

Prepared by: Adaa' Foundation for Consultancy and Studies | December 2024

KEY PERFORMANCE DASHBOARD

OUTSTANDING DEBT	SYSTEM CE	TOTAL ACCOUNTS	ANNUAL GAP
52.7B	**33.9%**	**145K**	**1.6B**
YER (+233% since 2017)	*vs 70-75% required*	*Active customer base*	*YER revenue leakage*

Table 1: Diagnostic Scope & Current Performance

DIAGNOSTIC SCOPE	VALUE
Analysis Period	January 2017 - June 2025 (102 months)
Customer Base	145,366 accounts (131K Domestic, 13K Commercial, 1.3K Government)
Geographic Coverage	Aden Governorate - 2+ million residents
Data Sources	Billing system, operational records, field enforcement logs
CRITICAL METRICS	**STATUS**
System Collection Efficiency	33.9% (CRISIS - requires 70-75%)
Outstanding Arrears	52.7 Billion YER (+233% since 2017)
Annual Debt Growth	4-5 Billion YER per year
Monthly Collections Gap	~980 Million YER (66% of billing uncollected)

1. Crisis Overview

LWSCA faces an existential financial crisis threatening essential water services to over two million urban residents. This diagnostic, based on 102 months of operational data, documents the severity and trajectory of this crisis.

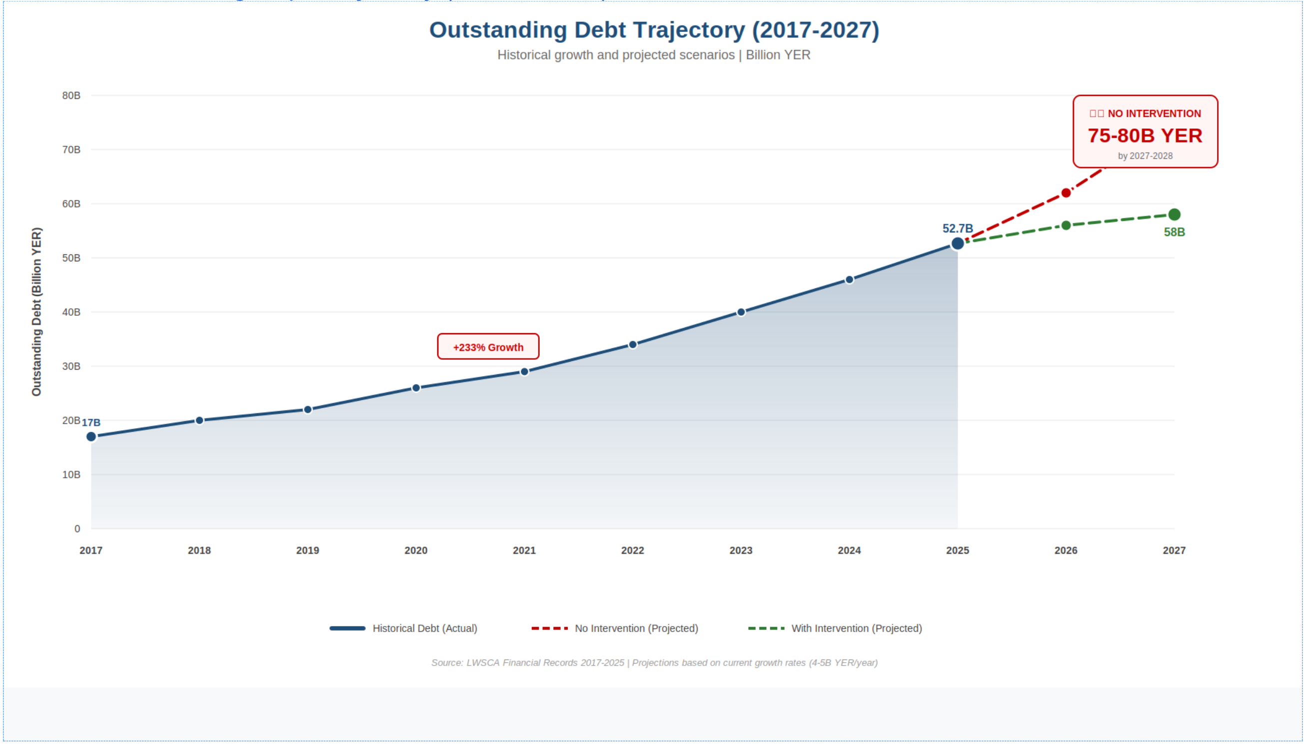
1.1 Scale of the Crisis

Outstanding Debt: System-wide arrears have grown from 17 Billion YER (2017) to 52.7 Billion YER (June 2025), representing a 233% increase. At current trajectory, debt will reach 75-80 Billion YER by 2027-2028, creating mathematical certainty of financial collapse.

Collection Efficiency: System CE of 33.9% means that for every 100 YER billed, only 34 YER is collected. International best practice for sustainable utilities is 85-95%. Even conflict-affected peer utilities average 50-65%.

Revenue Leakage: Annual leakage of approximately 1.6 Billion YER from suspended accounts (750M) and illegal connections (850M) represents recoverable revenue equivalent to 15-18 percentage points of CE improvement.

Chart 1: Outstanding Dept Trajectory (2017 – 2027)



1.2 Crisis Manifestation by Sector

Table 2: Sectoral Performance Comparison

Sector	Accounts	CE (2025)	Debt Share	Primary Issue
Domestic	131,038 (89%)	**24.5%**	40% (21.1B)	Non-payment culture
Commercial	13,005 (9%)	**76.5%**	9% (4.7B)	42% suspended
Government	1,323 (<1%)	**14.9%**	**51% (26.9B)**	Institutional failure

The Government sector, despite representing less than 1% of accounts, holds 51% of total outstanding debt - averaging 20.3 Million YER per account versus 161K YER for domestic accounts (128x differential).

2. Sectoral Deep-Dive Analysis

2.1 Domestic Sector (89% of accounts)

The domestic sector serves 131,038 residential accounts but demonstrates severe payment disengagement. Collection efficiency declined from 30% average (2017-2024) to 24.5% in H1 2025, indicating worsening rather than improving trends.

- **Payment Participation:** Only 10.5% of domestic customers actively participate in payment
- **Payment Discipline:** Among those who pay, 93% demonstrate monthly payment consistency
- **Affordability Stress:** Tariff increases trigger temporary CE drops, suggesting affordability threshold limits
- **Enforcement Response:** 77.8% customer response rate when enforcement is applied

2.2 Commercial Sector (9% of accounts)

Commercial customers demonstrate strong payment capacity (76.5% CE) but face a suspension crisis. Of 13,005 commercial accounts, 5,495 (42%) are currently suspended, representing massive revenue leakage from businesses capable of paying.

- **Active Account CE:** 76.5% - near international acceptable levels
- **Suspension Rate:** 42% of accounts suspended (5,495 accounts)
- **Enforcement Response:** 87.6% customer response rate - highest of all sectors
- **Revenue Leakage:** 400-500 Million YER annually from suspended accounts

2.3 Government Sector (<1% of accounts)

Government accounts represent systematic institutional non-payment requiring political-level intervention beyond operational scope. The 14.9% CE reflects payment behavior driven by inter-ministry coordination failure, not customer capacity.

- **Debt Concentration:** 51% of system debt (26.9B YER) from <1% of accounts
- **Average Debt per Account:** 20.3 Million YER (128x higher than domestic)
- **CE Trajectory:** Slight improvement from 10.2% to 14.9% (+4.8pp)
- **Resolution Path:** Requires Ministry of Finance / Cabinet intervention

Chart 2: Collection Efficiency By sector (H1-2025

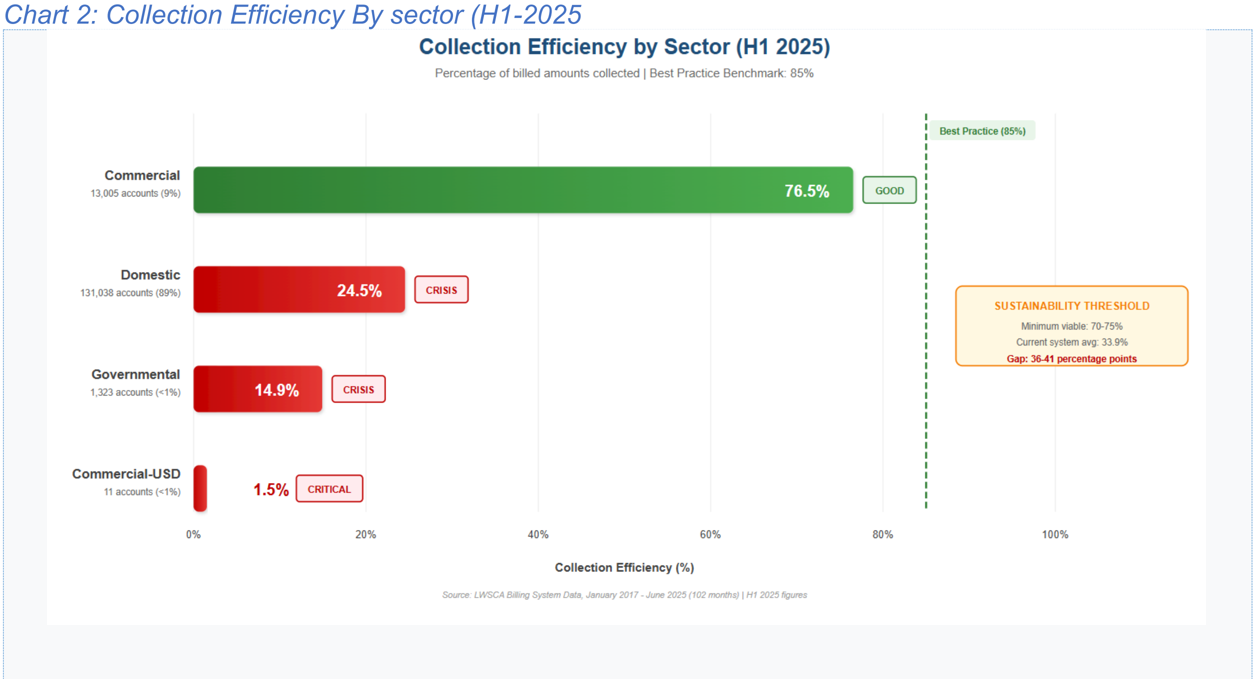
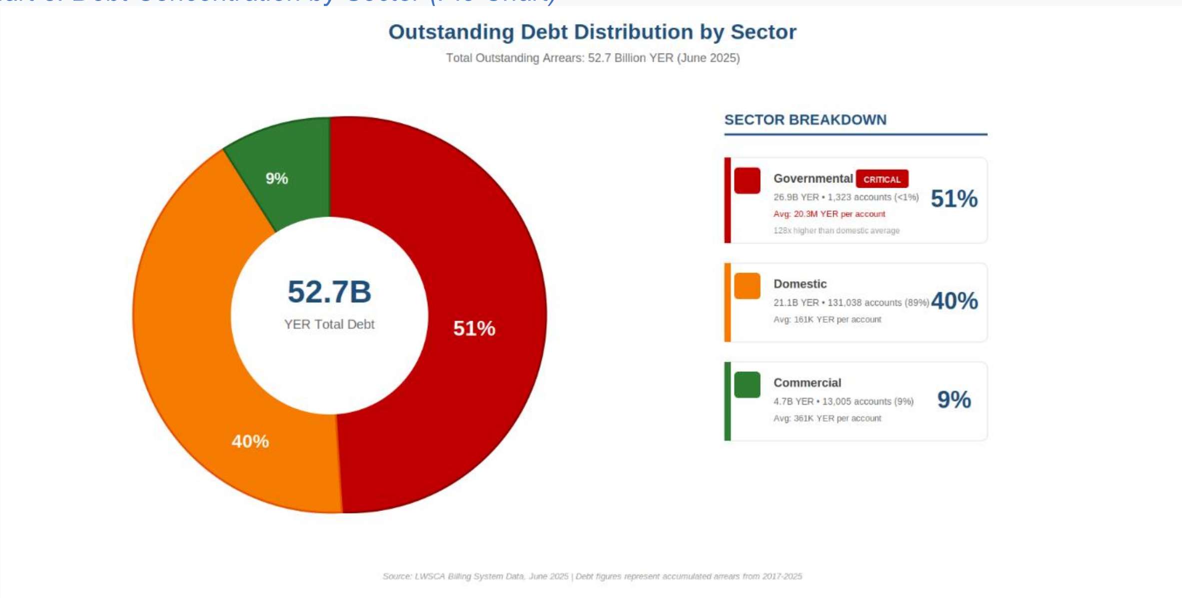
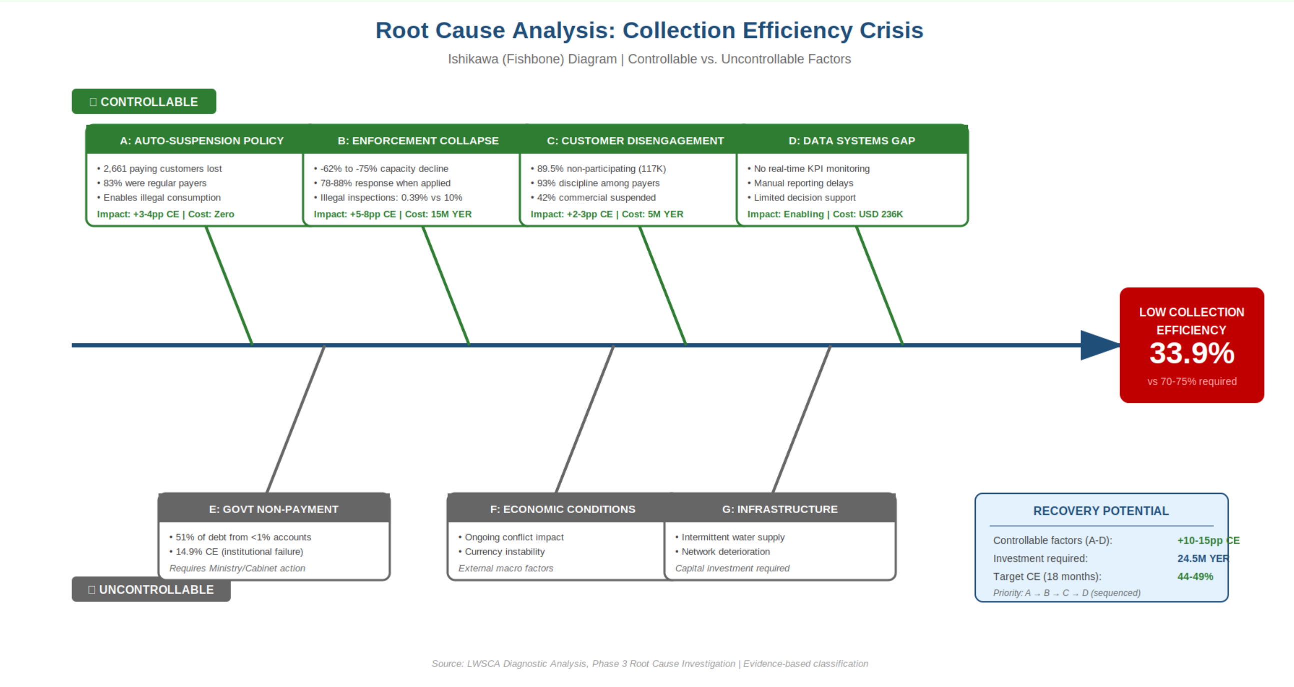


Chart 3: Debt Concentration by Sector (Pie Chart)



3. Root Cause Analysis

Diagnostic analysis identified four primary root causes driving LWSCA's financial crisis. Critically, three of four root causes are controllable through operational intervention.



3.1 Root Cause A: Auto-Suspension Policy Failure

The current auto-suspension policy suspends accounts after 3 consecutive non-payments without case-by-case review. This policy has backfired by removing paying-capable customers from active billing while enabling illegal consumption.

- **Customers Lost:** 2,661 domestic payers (83% were regular payers before suspension)

- **Annual Impact:** 313 payment-capable customers auto-suspended yearly
- **Illegal Enablement:** Suspended customers continue consuming without billing
- **CE Impact:** +3-4 percentage points recoverable through policy reform

3.2 Root Cause B: Field Enforcement Collapse

Field enforcement operations have declined 62-75% from peak capacity due to vehicle fleet deterioration, staff constraints, and fuel shortages. When enforcement is applied, customer response is excellent (78-88%), proving the intervention works.

- **Commercial Enforcement:** -75% decline from peak capacity
- **Domestic Enforcement:** -62% decline from peak capacity
- **Illegal Inspection Gap:** 0.39% coverage vs 10% industry standard (26x underfunded)
- **CE Impact:** +5-8 percentage points recoverable through restoration

3.3 Root Cause C: Customer Payment Disengagement

89.5% of domestic customers (117,337 accounts) demonstrate non-participation in payment. However, among the 10.5% who do participate, 93% maintain monthly payment discipline, indicating payment culture exists but participation is limited.

- **Non-Payment Ratio:** 89.5% (117,337 accounts not participating)
- **Payment Discipline:** 93% monthly consistency among payers
- **Enforcement Effect:** 82.4% response rate across categories when applied
- **CE Impact:** +2-3 percentage points through re-engagement programs

3.4 Root Cause D: Government Institutional Failure

Government non-payment represents institutional coordination failure, not operational dysfunction. Payment responsibility is fragmented across ministries without centralized accountability.

- **Classification:** Uncontrollable - requires political intervention
- **Required Action:** Ministry of Finance / Cabinet-level resolution
- **Operational Response:** Ring-fence reporting, exclude from operational CE targets

4. Predictive Outlook & Financial Projections

4.1 Baseline Scenario: No Intervention

Without intervention, current trends project continued deterioration:

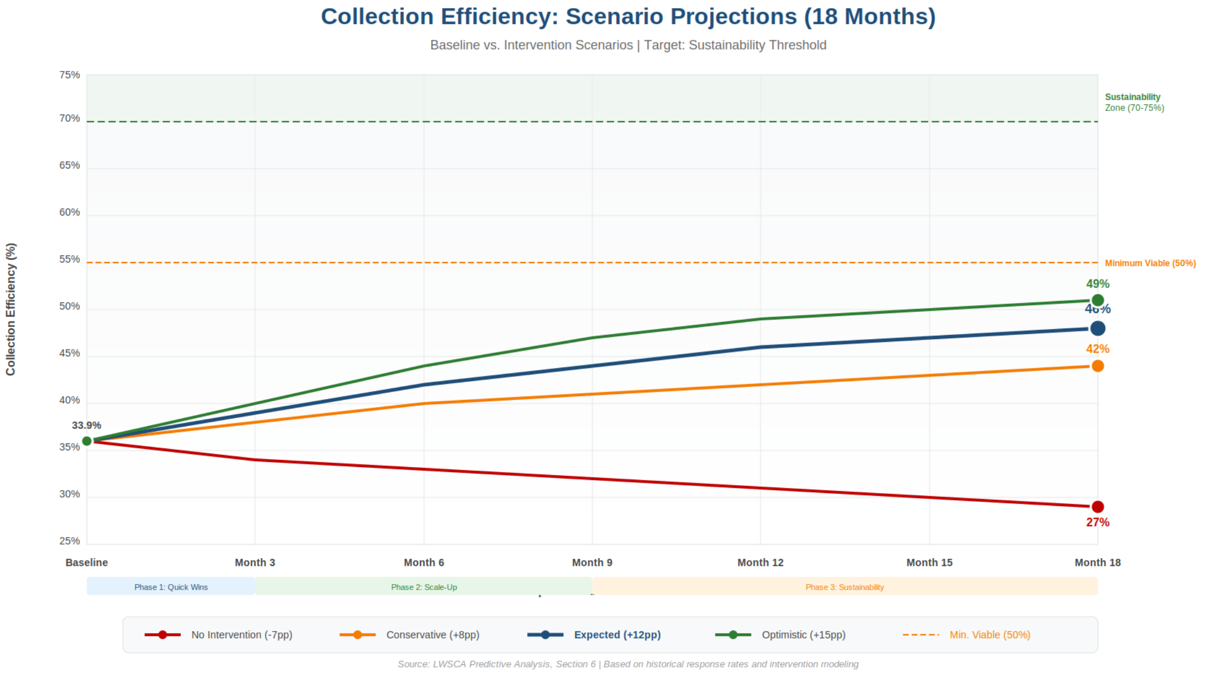
- **Debt Projection (2027):** 75-80 Billion YER (vs 52.7B current)
- **CE Trajectory:** Decline to 28-30% as enforcement capacity erodes
- **Service Risk:** Increasing probability of service delivery failure
- **Cost Escalation:** Recovery costs increase ~400M YER per month of delay

4.2 Intervention Scenarios

Table 3: Scenario Comparison - 18 Month Projections

Scenario	Target CE	CE Gain	Revenue Recovery	Investment
No Intervention	28-30%	-4 to -6pp	N/A	N/A
Conservative (P1-P2 only)	39-42%	**+5-8pp**	540-720M YER	15M YER
Expected (P1-P3)	44-46%	**+10-12pp**	1.07B YER	24.5M YER
Optimistic (Full implementation)	46-49%	**+12-15pp**	1.3-1.6B YER	24.5M YER

Chart 4: CE Scenario Projections (Multi-line Chart)



4.3 Sustainability Threshold Analysis

Financial sustainability requires achieving minimum 50% CE within 3 years, with trajectory toward 70%+ within 5 years. Current interventions target 46-49% by Month 18, establishing foundation for subsequent improvement phases.

Table 4: Sustainability Milestones

Timeframe	Target CE	Status	Assessment
Current State	33.9%	**CRISIS**	Below viability
Month 18 Target	46-49%	**RECOVERING**	Approaching threshold
Year 3 Target	50-55%	**MINIMUM VIABLE**	Basic sustainability
Year 5 Target	70-75%	**SUSTAINABLE**	Long-term viability

5. Strategic Recommendations

Four priority interventions address controllable root causes in sequenced implementation:

5.1 Priority 1: Auto-Suspension Policy Reform

Priority 1 Summary

Timeline	Month 1 (Immediate)
Investment Required	Zero (Policy revision only)
Expected Impact	+3-4 percentage points CE improvement
Key Actions	Revise TOR to require case-by-case review before suspension; retain paying customers in active billing; prevent illegal consumption enablement

5.2 Priority 2: Field Enforcement Restoration

Priority 2 Summary

Timeline	Months 1-6
Investment Required	15 Million YER (vehicles, equipment, fuel)
Expected Impact	+5-8 percentage points CE improvement
Key Actions	Restore disconnection capacity; scale illegal inspections from 0.39% to 10%; commercial reconnection outreach campaign

5.3 Priority 3: Customer Re-engagement

Priority 3 Summary

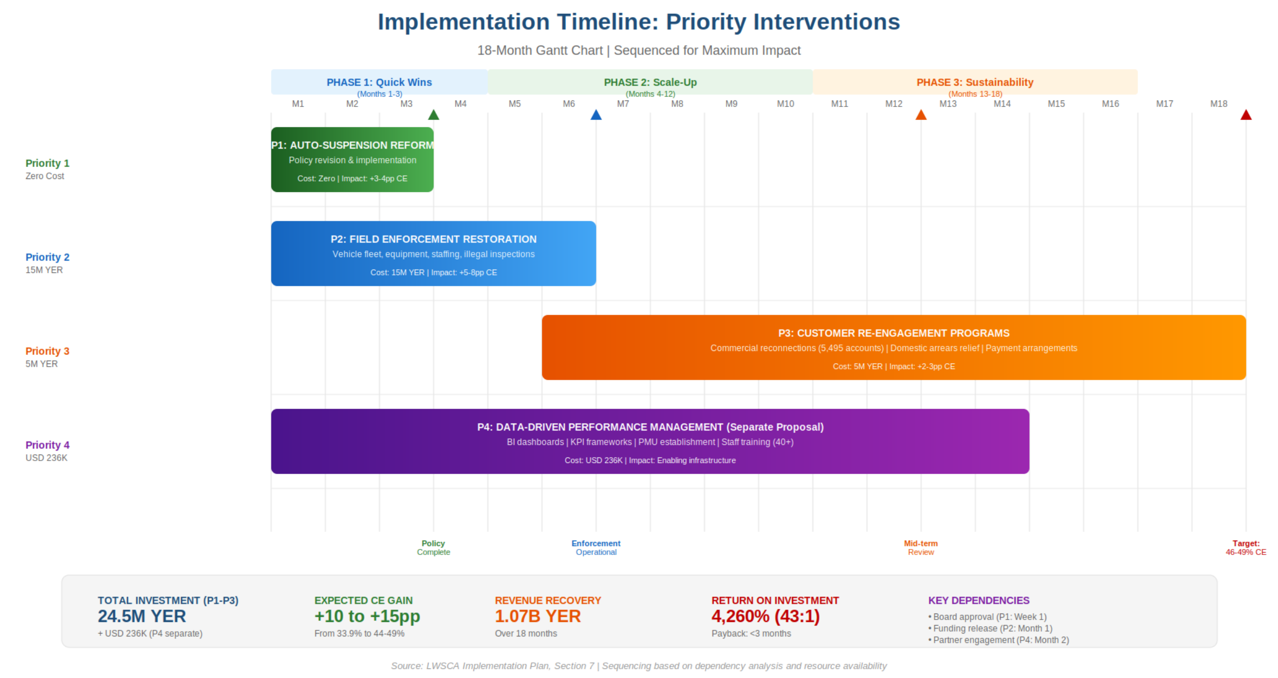
Timeline	Months 6-18
Investment Required	5 Million YER (arrears relief, incentives)
Expected Impact	+2-3 percentage points CE improvement
Key Actions	Commercial reconnection (5,495 accounts); domestic arrears relief programs; payment arrangement options

5.4 Priority 4: Data-Driven Performance Management

Priority 4 Summary

Timeline	14 months (separate proposal)
Investment Required	USD 236,000 (Tier 1: $116K, Tier 2: $120K)
Expected Impact	Enabling infrastructure for sustained improvement
Key Actions	BI dashboards; KPI frameworks; PMU establishment; SOP refinement; 40+ staff trained

Chart 5: Implementation Timeline (Gantt Chart)



6. Investment & Return on Investment

6.1 Investment Summary

Table 5: Investment by Priority

Priority	Investment	CE Impact	Timeline
P1: Auto-Suspension Reform	**Zero**	+3-4pp	Month 1
P2: Enforcement Restoration	15M YER	+5-8pp	Months 1-6
P3: Customer Re-engagement	5M YER	+2-3pp	Months 6-18
P4: Data Systems (Separate)	USD 236K	Enabling	14 months
TOTAL (P1-P3)	**24.5M YER**	**+10-15pp**	**18 months**

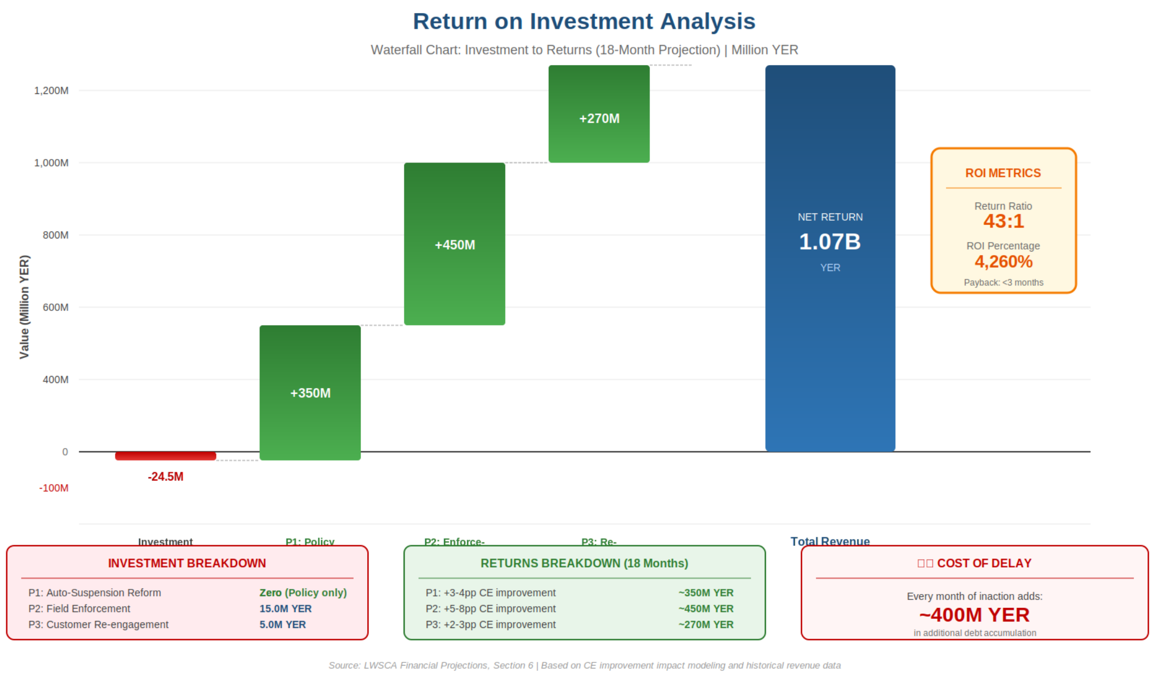
6.2 Return on Investment Analysis

Based on LWSCA financial data and conservative projections:

Table 6: ROI Calculation

Total Investment (P1-P3)	24.5 Million YER
Revenue Recovery (18 months)	**1.07 Billion YER**
Return on Investment	**4,260% (43:1 benefit-cost ratio)**
Payback Period	< 3 months
Monthly Delay Cost	~400 Million YER additional debt

Chart 6: ROI Waterfall Chart (Investment → Returns)



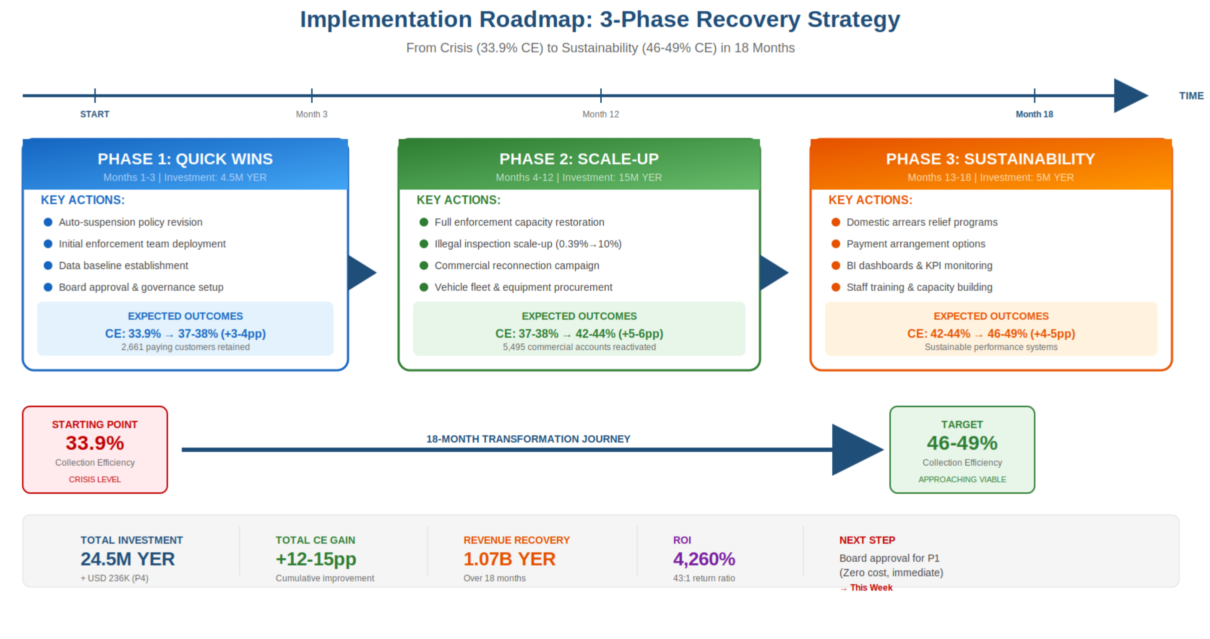
6.3 Comparative Efficiency

- **Cost per resident:** ~12 YER per capita (24.5M ÷ 2M residents)
- **Cost per account:** ~169 YER per account (24.5M ÷ 145K accounts)
- **International comparison:** Similar interventions typically cost 10-50x more
- **Self-financing:** Revenue gains cover investment within first quarter

7. Implementation Roadmap & Next Steps

7.1 Phased Implementation

Infographic 2: 3-Phase Implementation Roadmap



Source: LWSCA Strategic Recommendations, Section 7 | Phased implementation based on dependency analysis

Table 7: Implementation Phases

Phase	Timeline	Focus	Investment
Phase 1: Quick Wins	Months 1-3	Policy reform, initial enforcement	4.5M YER
Phase 2: Scale-Up	Months 4-12	Full enforcement, reconnections	15M YER
Phase 3: Sustainability	Months 13-18	Re-engagement, systems	5M YER

7.2 Risk Summary

Table 8: Key Risks & Mitigations

Risk	Likelihood	Impact	Mitigation
Leadership turnover	Medium	**High**	Multi-level engagement, Board commitment
Staff resistance	Medium	Medium	Change management, incentives
Funding delays	Medium	**High**	Phased approach, P1 zero-cost start
Security deterioration	Low	**High**	Remote capabilities, pause/resume

7.3 Call to Action

The convergence of crisis urgency and implementation readiness creates exceptional conditions for immediate action:

1. **Immediate:** Board approval for Priority 1 auto-suspension policy revision (zero cost)
2. **Short-term (30 days):** Funding decision for Priority 2-3 (24.5M YER operational budget)
3. **Medium-term (60 days):** Partner engagement for Priority 4 Performance Management system (USD 236,000)
4. **Government Track:** Escalate governmental debt to Ministry of Finance / Cabinet level

Every month of delay costs approximately 400 Million YER in additional debt accumulation. The window for evidence-based recovery is open.

7.4 Annex: Methodology Notes

This diagnostic employed a 5-phase analytical framework:

- **Phase 1:** Data extraction and enhanced dataset construction (102 months, 408 data points)
- **Phase 2:** Descriptive analytics and trend identification
- **Phase 3:** Sectoral deep-dive analysis with statistical correlation
- **Phase 4:** Predictive modeling and scenario development
- **Phase 5:** Recommendation synthesis and implementation planning

Full methodology documentation available in main diagnostic report Annex A.

— End of Executivel Summary —

For complete diagnostic report and annexes, contact:
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