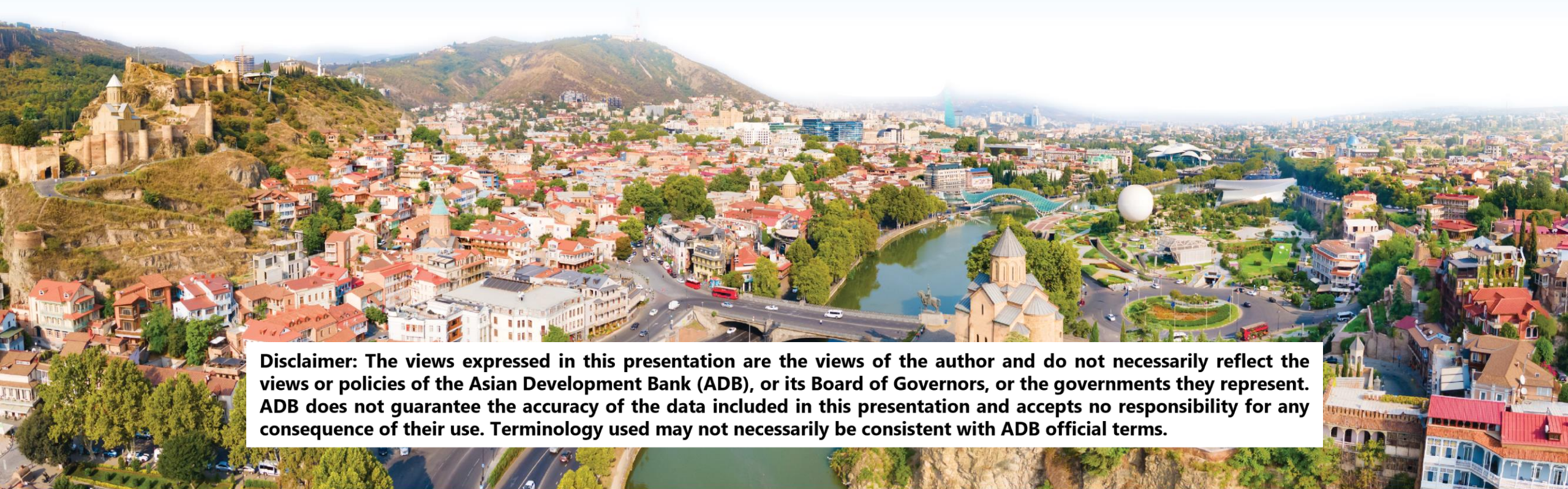




Environmental Safeguard Conference and Environmental and Social Framework Orientation Workshop

FOR CENTRAL AND WEST ASIA, AND EAST ASIA REGIONS

29 September–2 October 2025 | Tbilisi, Georgia



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Today's sessions

- **Session 1:** TA 10110 in Review: Milestones, Challenges, and Lessons in Safeguards Practice
- **Session 2:** Safeguards by Design Embedding Environmental Compliance and Accountability into Procurement
- **Session 3:** Operationalizing EMPs Budgeting, Monitoring, and Shared Accountability in Implementation
- **Session 4:** Making Grievance Redress Work Strengthening Risk-Based Approaches Across ADB funded Projects



Session 2:

Safeguards by Design: Embedding Environmental Compliance and Accountability into Procurement

Objective: Embed safeguards in procurement so compliance is enforceable, costed, and accountable.

Duration: 90 minutes

Why Procurement Matters

“Strong clauses in contracts mean little unless they are costed, monitored, and enforced.”

Key message: Procurement accountability is essential for safeguard commitments to succeed.

Case Study: Heritage Impact Assessment Integration in Procurement Systems

Project: GEO Livable Cities Investment Project (LCIP)

Presenter: Beka Toria, ADB Program Manager, MDF, MRDI

**EA/IAs: Ministry of Regional Development and Infrastructure (MRDI) &
Municipal Development Fund (MDF)**

Laghami Historic Settlement - A Living Heritage Site

- **Scope & Scale:**

- **124** historic buildings for rehabilitation
- **11** listed cultural heritage monuments
- **1** Monument of National Importance (Laghami Church, 10-14th cc.)
- Traditional Svan architectural typology preservation

- **Heritage Values at Risk:**

- Medieval urban morphology
- Traditional building techniques (machubi, tower, gubandi, lalcha)
- Authentic construction methods and techniques
- Living heritage community

Traditional Procurement Gaps in Heritage Projects

- **Documentation Challenges:**

- Generic technical specifications unsuitable for complex heritage works
- Absence of conservation methodology in bidding documents
- Application of evaluation criteria for heritage expertise
- Cost allocations for specialized materials

- **Implementation Risks:**

- Contractors treating heritage as standard construction
- Delayed NACHP (National Agency for Cultural Heritage Preservation) approvals
- 20 -30% average time overrun in heritage projects

- **Contractor Capability:**

- Lack of qualified heritage conservation specialists
- No understanding of reversibility principles
- Unfamiliarity with traditional materials (NHL, schist, kavari)

- **Financial Implications:**

- 15-20% cost adjustments due to undefined heritage requirements
- Payment disputes from unclear compliance criteria

Technical Assistance Framework

Procurement Framework Adaptation

- Heritage-specific requirements for ADB Standard Bidding Documents
- Template language for Section 8 (Particular Conditions of Contract)
- Integration methodology for FIDIC-based contracts

Technical Evaluation Development

- Weighted criteria balancing heritage expertise with financial capacity
- Measurable benchmarks for conservation experience
- Staff qualification requirements

BOQ Integration

- Specialized line items for HIA implementation
- Conservation materials procurement specifications
- Expert supervision cost allocations



Enhanced Contractor Qualification:

- Qualified bidders
- 100% demonstrated conservation understanding
- Technical proposals included heritage methodologies



BOQ Innovation Results:

- Archaeological supervision (man/day integration)
- Heritage expert mobilization



Payment Milestone Implementation

Multi-Stakeholder Coordination Success

Stakeholder	Role	Accountability Mechanism
MDF	Contract management	ADB compliance reporting
NACHP	Technical approval	Heritage standards verification
CSC/EPTISA	Daily supervision	Monthly progress reports
Contractor	Implementation	Payment-linked milestones
Community	Social monitoring	Grievance mechanism

Coordination Tools:

- Monthly joint inspections
- Integrated reporting system
- Real-time issue resolution protocol

MDF Environmental & Resettlement Unit

Institutional Strengthening:

- Team expansion
- Dedicated heritage procurement expertise gained
- Systematic SEMP review capacity
- Semi-annual environmental monitoring (SAEMR) capability

Knowledge Developed:

- Heritage procurement
- BOQ line items database
- Evaluation criteria models

Partnerships Established:

- NACHP formal coordination mechanism
- ICOMOS technical advisory role defined
- Community monitoring framework established

Contractor & Community Capacity Building

Contractor Development:

- 40-hour mandatory conservation training
- Traditional techniques workshops
- Monthly toolbox talks implementation

Local Capacity Creation:

- 45 certified heritage craftsmen
- 3 vocational education modules
- Traditional skills documentation

Sustainable Impact

- ✓ Local expertise retention
- ✓ Reduced reliance on external specialists
- ✓ Community ownership of heritage preservation

- 1 Early Integration is Essential**
- 2 Specification Clarity Prevents Conflicts**
- 3 Formal Stakeholder Frameworks Required**
- 4 Capacity Investment Reduces Risk**
- 5 Community Engagement Ensures Sustainability**

Scalable Solutions for Regional Application

Replicable Tools:

- **Heritage Contract Templates** - FIDIC-compatible, ready for adaptation
- **BOQ Database** - heritage-specific line items
- **Evaluation Models** - Weighted criteria frameworks
- **Coordination Protocols** - Multi-stakeholder templates

Adaptation Potential:

- Urban heritage: 100% applicable
- Archaeological sites: 80% with modifications
- Rural heritage: 70% with simplification

Heritage safeguards can drive procurement excellence, not hinder it:

- Adopt heritage-specific procurement frameworks
- Enhancing heritage safeguard capacity
- Developing BOQ standards
- Implement mandatory conservation training

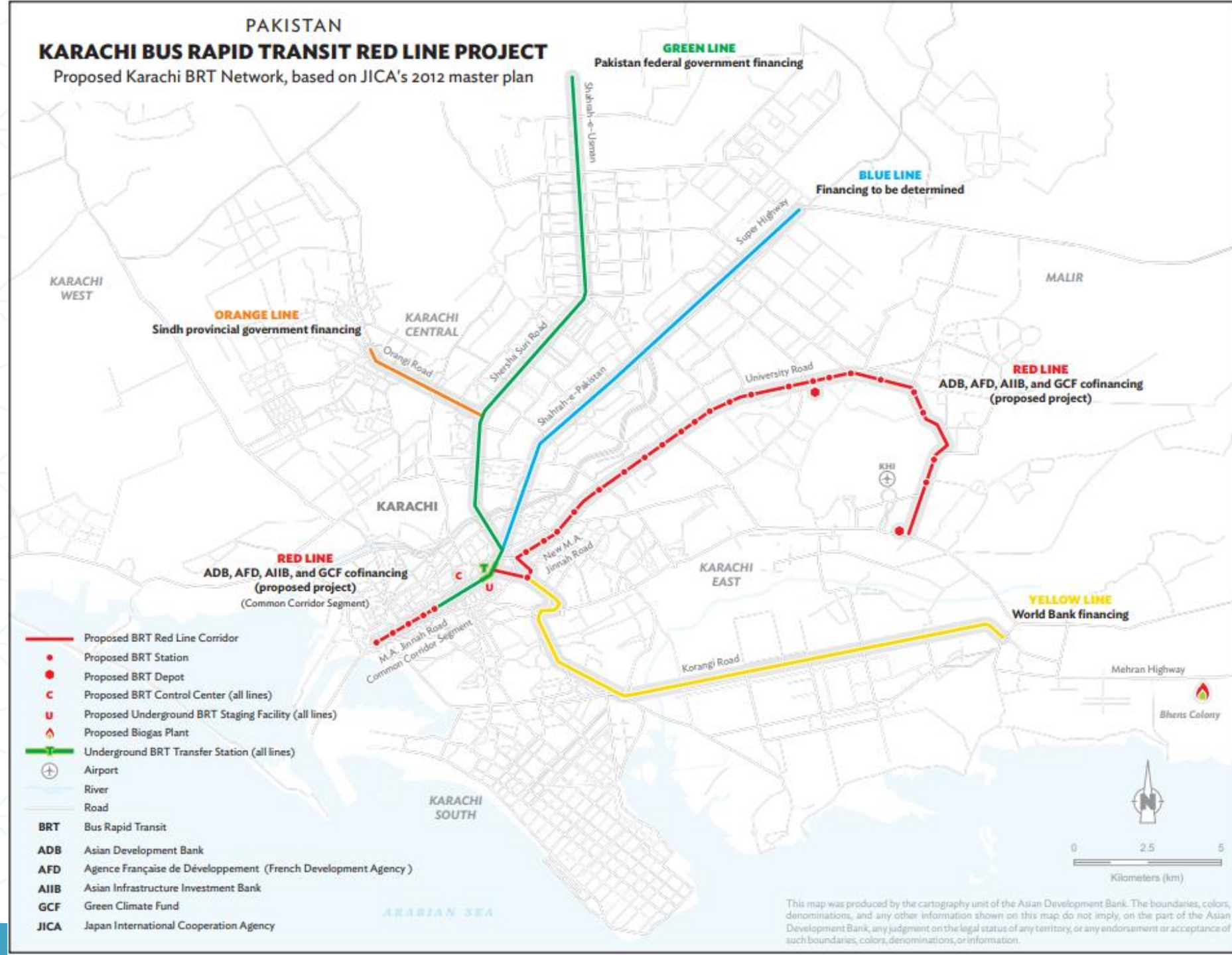
Case Study: Embedding Environmental Compliance and Accountability into Procurement

Project: PAK Karachi Bus Rapid Transit (KBRT) Red Line

Presenter: Attaullah Athar, Manager ESS/HSE

EA/IA: Trans Karachi

Project Map



Brief Project Context

Loan- 3799 PAK

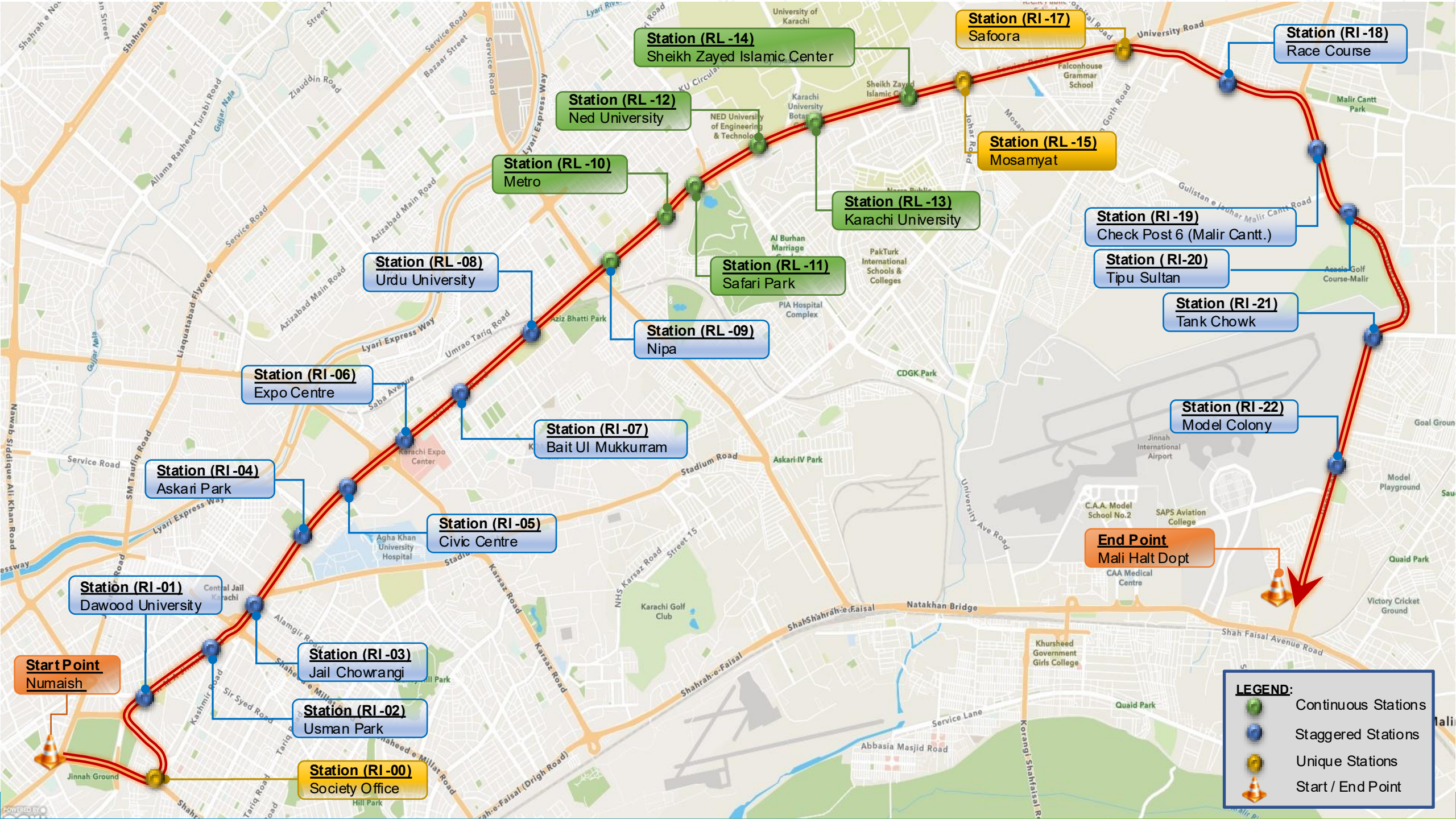
Signed: 19 June 2020

Effectivity: 06 October 2020

Closing Date: 30 June 2026

Project Objectives:

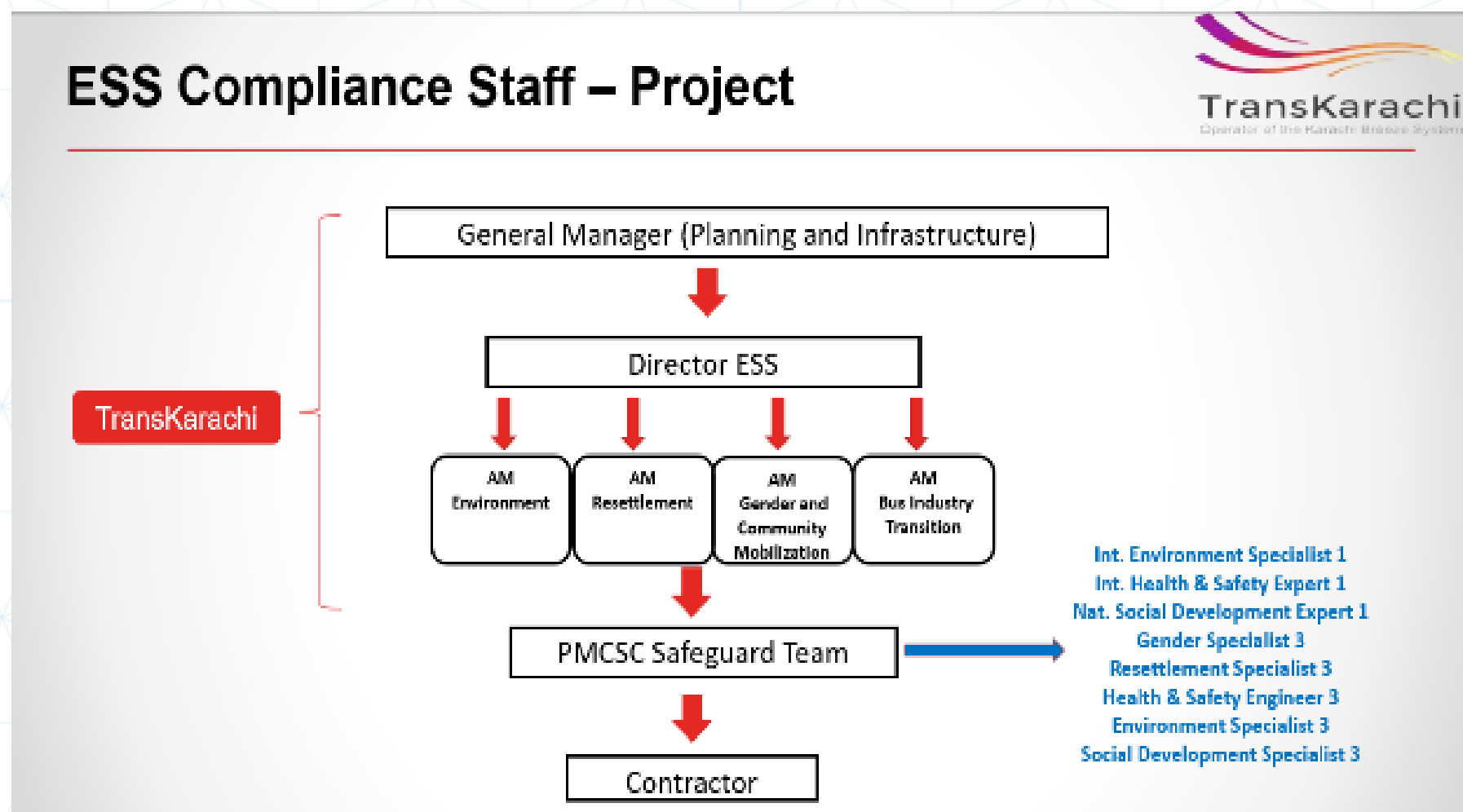
- Provide safe, environment friendly and reliable transport service
- Enhance the quality of the public transport and reduce traffic congestion
- Build for comfort, quality, and improved access for all
- Encourage women and people with disabilities to utilize public transports
- Improvement in road safety provides better quality of life



Construction Lot Details

PHASE I			
Lot I	Malir Halt to Mosmiyat	12+850 to 22+500	9.65km
Lot II	Mosmiyat to Numaish Chowrangi	0+000 to 12+850	12.85km
PHASE II			
Lot III	Municipal Park to Tower	Not Awarded yet	2.50km
Total =			25.00km

ESS Compliance Staff at Project Level



Inspection Findings - Summary

CAP Phase-1	Observation - 10	Compliance – 100 %	LOT-1 and LOT-2
CAP Phase-2	Observation - 20	Compliance – 100 %	LOT-1 and LOT-2

Note: Due recent heavy rains in Karachi, Urban flooding badly impacted the compliance progress.

TK Staffing

Manager ESS	01	Hired
Health and Safety Officer	01	Hired
Environmental Officer	01	Hired
Resettlement Officer	01	Hired
Gender Equity Officer	01	Hired
Traffic Officer	01	Vacant
Bus Industry Officer	01	Vacant
Public Participation Officer	01	Vacant

Brief history of OH&S and ENV Issues and Actions

Dec. 2023 to Apr. 2024



Safety Breach and Site Suspension

- Serious safety violations
- Serious safety incident led to temporary suspension of works pending OH&S Audits
- Site resumed: Apr-2024

May 2024 to Dec. 2024



Safety Compliance Progress

- Review missions identified
- safety violations
- Corrective Action Plans
- OH&S Improvement: Dec-2024

April 2025



Safety Breach and Site Suspension

- Significant OH&S non-compliance issues identified across the BRT alignment



Non-compliances



EXCAVATION WITHOUT
PROTECTION (ASKARI PARK)



Non-compliances



MISSING FENCING



Non-compliances



NO SHORING



Non-compliances



MISSING PPES



Non-compliances



UNAUTHORIZED
ACCESS TO SITE



Non-compliances

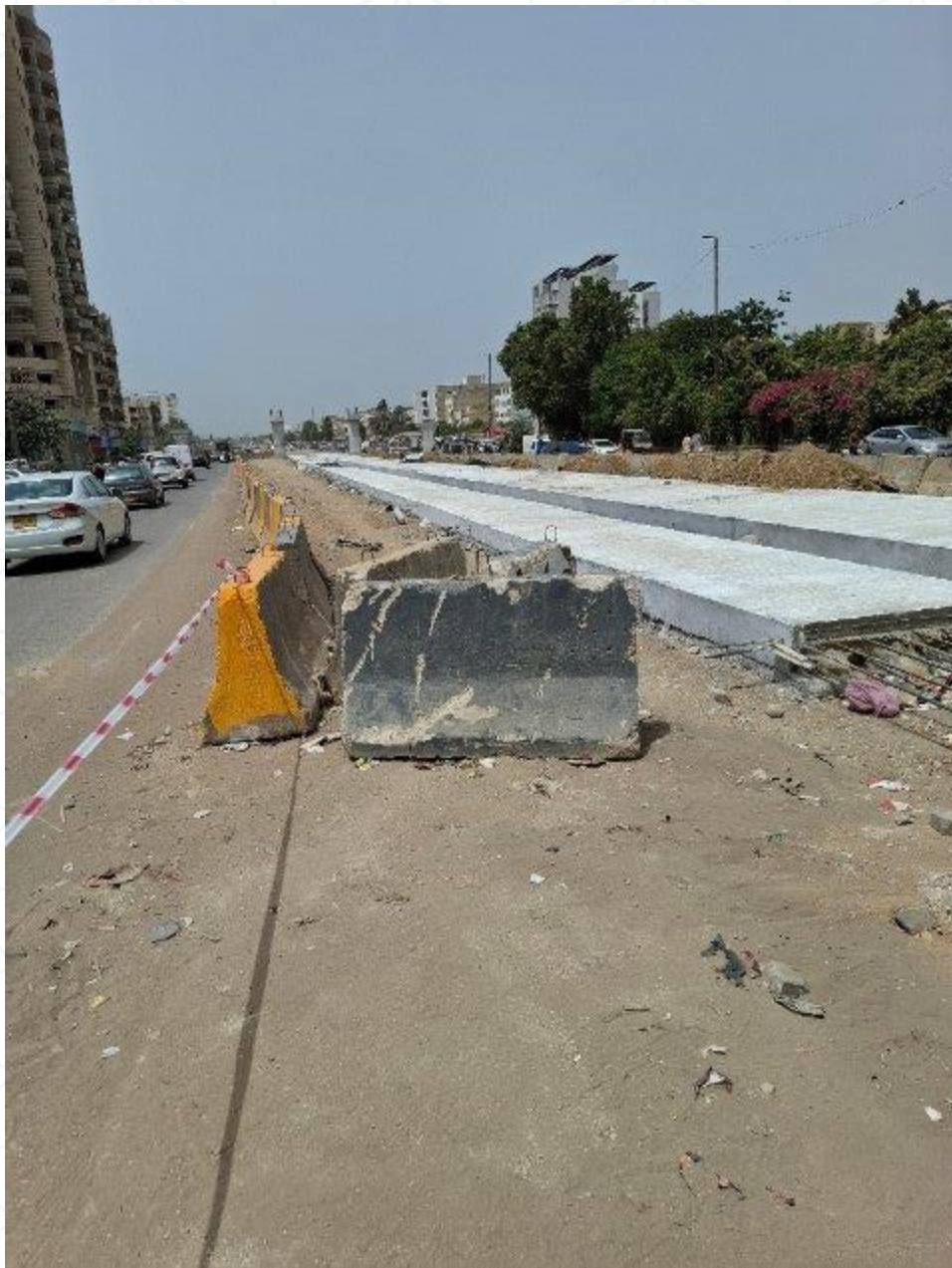
 NO SPEED BREAKERS



Non-compliances



LACK OF FENCING



Non-compliances



JBS IN WRONG LOCATIONS

Improvements in **OHS measures from the CAP helped create better working conditions**, enabling work to resume.

- Support in corrective action planning
- Support in contract addenda with safeguards line items
- Sectional works approach
- Multilingual site safety communication
- Identified noncompliance hotspots
- Facilitated capacity building
- Knowledge sharing with IA, contractors and consultants
- Supported systematic implementation

Embedding Environmental Compliance and Accountability into Procurement

- The procurement process within the EMP in Section 6 of Bidding Documents lacked precise details assessed against anticipated environmental impacts during the design phase.
- A more detailed execution of the plan was necessary - EMP clauses required greater specificity and resources.
- A supplementary contract was created – compliance required; client intervention when necessary

- Daily toolbox talks and sectional works
- Multilingual site safety materials
- CAP linked to payments

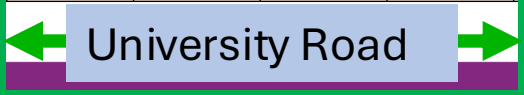
Compliance Against Traffic Improvements and Road Repair Works

Kilometre Wise Lot-1- Data showing percentage of compliance

Compliance Status Summary (Lot -1)

Date: 1/18/2024

Sr.	Items to Monitor	Chainage	12+850	13+000	14+000	15+000	16+000	17+000	18+000	19+000	20+000	Total	Total (%)
			To	To	To	To	To	To	To	To	To		
			13+000	14+000	15+000	16+000	17+000	18+000	19+000	20+000	21+000		
1	Length barricaded (Alignment)	Total (m)	130	985	985	975	910	950	1000	200	-	6135	
		Placed (m)	130	985	735	835	910	950	1000	200	-	5745	94%
		Alignment (m)	130	800	485	700	900	800	700	200	-	4315	70%
2	Paint on NJ barriers	Total (m)	130	985	985	975	910	950	1000	200	-	6135	
		Completed (m)	130	985	725	835	910	950	1000	200	-	5735	93%
3	Steel fence	Total (m)	-	1100	1950	-	2100	-	-	-	-	5150	
		Completed (m)	-	1028	1510	-	1558	-	-	-	-	4096	80%
4	Signage approved TTMP	Total (No)	3	10	23	4	16	16	4	8	-	84	
		Completed (No)	3	10	23	3	16	15	4	8	-	82	98%
5	Major Repair (Patch works)	Total (No)	-	3	14	4	5	5	-	1		32	
		Completed (No)	-	3	14	4	5	5	-	1		32	95%
6	Minor Repair (Potholes)	Total (No)	-	1	3	-	1	1	-	2		8	
		Completed (No)	-	1	3	-	1	1	-	2		8	100%
7	U-Turns	Total (No)	1	1	2	1	1	1	-	1	-	8	
		Completed (No)	1	1	2	1	1	1	-	1	-	8	95%
8	Diversions	Total (No)	-	-	-	1	1	-	-	-	-	2	
		Completed (No)	-	-	-	1	1	-	-	-	-	2	100%
9	Security Guards	Total (No)	1	3	3	3	3	3	3	3	-	22	
		Completed (No)	1	3	3	3	3	3	2	2	-	20	91%
10	Flag man	Total (No)	-	1	4	3	2	1	1	-	-	12	
		Completed (No)	-	1	4	3	2	1	1	-	-	12	100%
11	House Keeping	Total (No)	3	3	3	2	2	2	1	1	-	17	
		Completed (No)	2	2	2	2	2	1	1	-	-	14	82%
12	Water Ponding Issues (KWSB)	Total (No)	-	-	-	1	4	-	-	-	-	5	
		Completed (No)	-	-	-	1	1	-	-	-	-	2	40%
13	Covering Manholes	Total (No)	-	3	18	-	-	-	-	-	-	21	
		Completed (No)	-	3	16	-	-	-	-	-	-	19	90%





Improvement Works after implementation of Phase 1 and 2 CAP

Before After



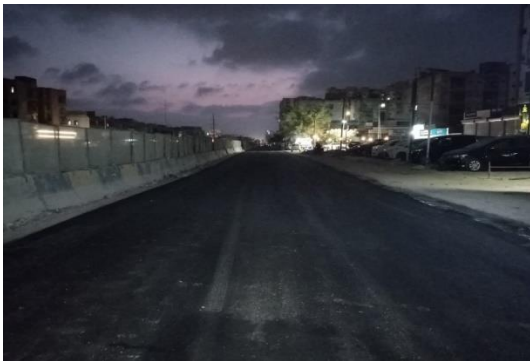
Road patch Work at UK Apartment for smooth traffic flow

Before After



Road patch Work at Safari Park Ramp for smooth traffic flow

Before After



Road patch Work at Mosamiyat for smooth traffic flow

Before After



Road potholes Work at Civic Centre for smooth traffic flow

Improvement Works

Before



After



Road patch Work at Bait-ul-Mukaram for smooth traffic flow

Before



After



Road patch Work at Samama for smooth traffic flow

Before



After



Road patch Work at Askari for smooth traffic flow

Before



After



Road potholes Work at NED University for smooth traffic flow

Lane Marking Work-



Lane Marking at Urdu University



Lane Marking at Mosamiyat



Lane Marking at Askari



Lane Marking at Sheikh Zayed



Lane Marking at UK Apartment



Lane Marking at NED

Lane Marking Work-



Lane Marking at Urdu University



Zebra Crossing at Numaish Underpass



Zebra Crossing at Mosamiyat



Zebra Crossing at Café Qabail



Zebra Crossing at Numaish Underpass



Zebra Crossing at Numaish NED University

Fiber Fence –



Fiber sheets on NJ Barriers

Fiber Fence



Fiber Fence on N.J Barrier at DC-19



Installation of fiber fence on N.J Barrier at DC-20



Washing of NJ barriers and Fence from
(Karachi University to Shaikh Zayed)

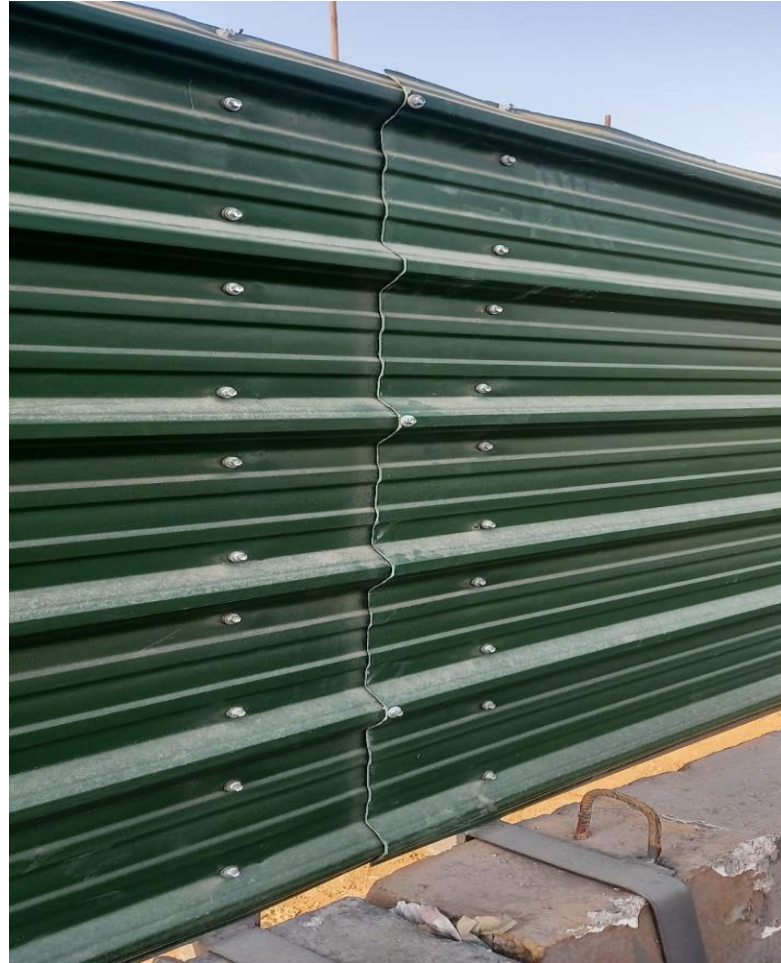
Improvement Areas (New Fibre Fence Structure)



Fence Work in progress from
(05+550 to 05+870) at Bait-ul-Mukkuram



Enamel Paint work on Fence frame at Sheikh
Zayed (Video Attached)



Proper Overlapping of Fence at Site

Improvement Works - Lot 1

Before

After



From Ayesha Chowk to Tank Chowk

Before

After



From CP-06 to Ayesha Chowk

Before

After



From CP-06 to Ayesha Chowk

Before

After



Safoora towards Hydrant

Improvement Works - Lot 1

Before



After



Lane Marking and Steel Fence at Mosamiyat

Before



After



Road Cleaning near Safoora

Before



After



Lane Marking, Reflectors and Green fabric from Safoora to Mosamiyat

Before



After



Installation of Steel Fence near Mosamiyat

HSE Compliance- Lot 1



Reflector on Barrier



Shoring



Training



Flagman during night

Lot – 2 HSE and Traffic Management Compliance

Ch:06+530 to 6+584



Ch:06+300 to 06+520



Fiber Fence Near Urdu University



Old GI Sheet painted with Green color at Mosamiyat (Activity on-Going)

HSE Compliance- Lot 2



Fiber sheets on NJ Barriers Near Urdu University



Shoring Work DC-2 at Mosamiyat



Asphalt Patch Work at NIPA



Fixing of Shoring at DC-12 Hassan Square

Diversion Improvement



Location: From CP-06 Towards Tank Chowk

U Turns Improvement

Before



After Treatment



Location: KU U turn

U Turns Improvement

Before



After Treatment



Location: Sport Pavilion U Turn

Road Pavement Improvement

Before



After Treatment

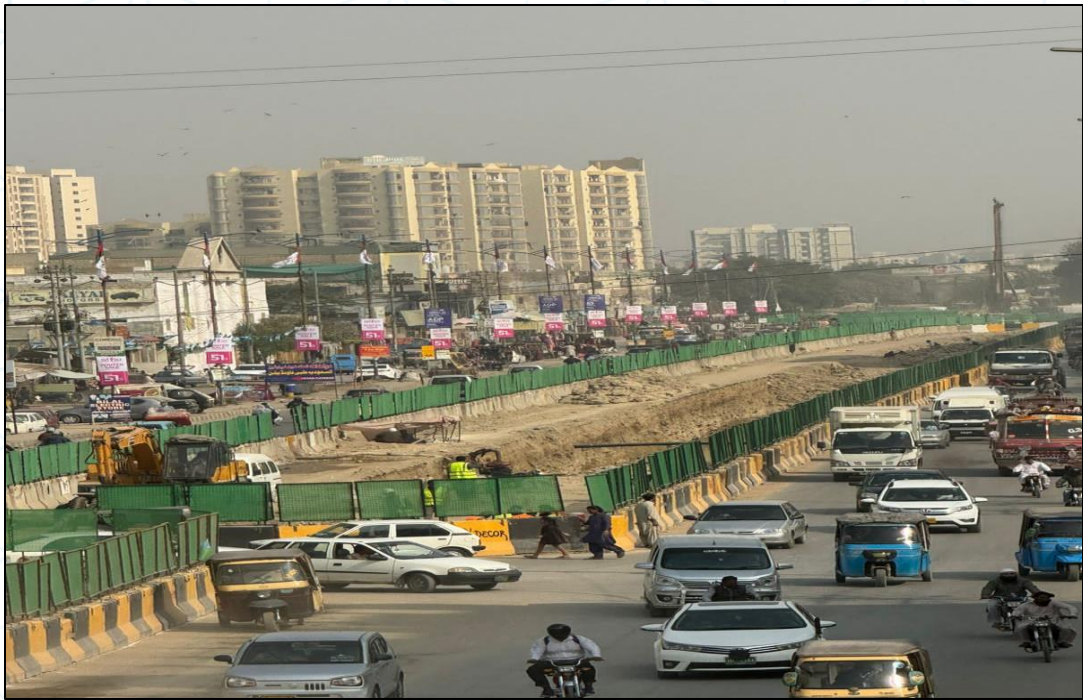


Location: Al-Jadeed Super Mart
(Mosamiyat)

Work Zone Improvement

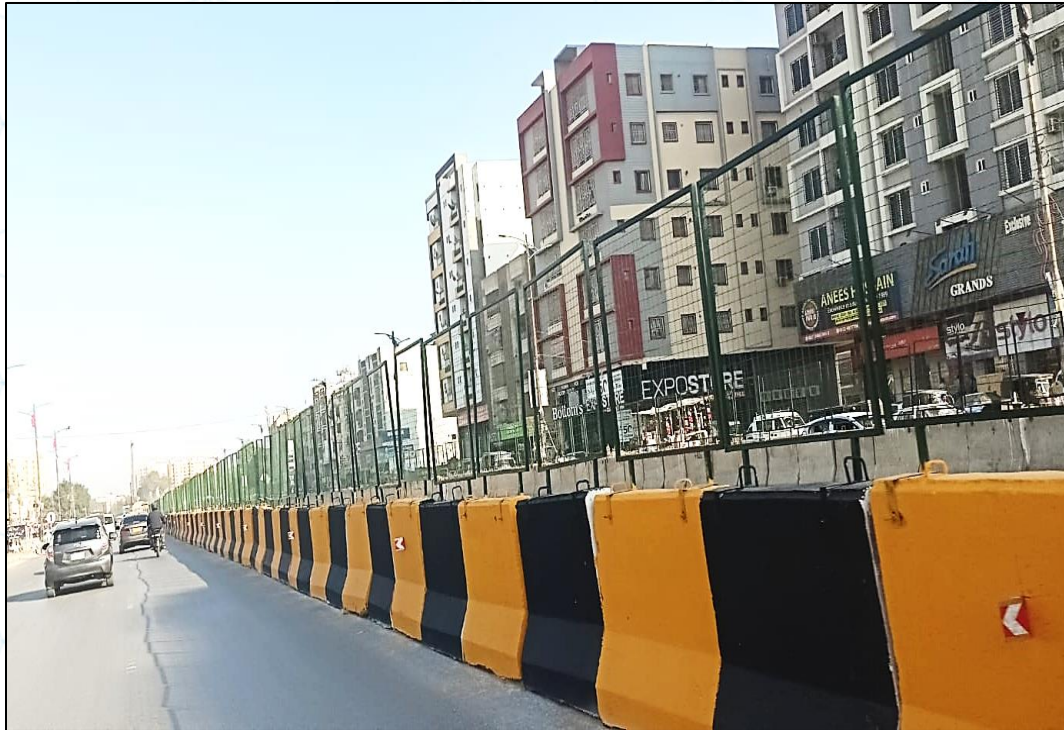
Before

After Treatment



Location: University Road K13+635 to K14+250

Work Zone Improvement



Location: University Road

Karachi BRT Red Line (Lot-II) Improvement Works

Before



After Treatment



Location: Karachi University R/S

Karachi BRT Red Line (Lot-II) Improvement Works

Before



After Treatment



Location: Sport Pavilion

Karachi BRT Red Line (Lot-II) Improvement Works

Before



After Treatment



Location: Safari Park L/S

Karachi BRT Red Line (Lot-II) Improvement Works

Before



After Treatment



Location: Karachi University L/S

Karachi BRT Red Line (Lot-II) Improvement Works

Before



After Treatment



Location: Bait Ul Mukkarram Service
Road L/S

- OH&S systems can deteriorate rapidly without continuous attention.
- A sustainable, proactive approach is essential to maintain safety standards.
- Third-party monitoring is required for high-risk linear projects in populated areas.
- It is important that the BOQ items be tied with the detailed items of the EMP from the start.

Institutional Capacity Gains

- Filled positions on Health, Safety and Environment areas
- Training on SSEMP, Road Safety, Monitoring and Reporting.
- Improved monitoring and reporting through regular joint supervision missions, field audits
- Updating Environmental Assessment Documents after design changes.
- Safeguards linked with technical and procurement teams.
- TK more empowered now after contract variation.

Results & Replicability Takeaway

- Improved OHS culture
- Compliance is measurable and auditable
- Replicable for urban transport
- Always tie OHS/EMP compliance to payment milestones

- Procurement Plan update
- No leverage from TK for non-compliance
- Conduct regular **training sessions** for OH&S and environmental staff and senior management
- Prepare an **OH&S Management Plan** as part of the Environmental Management Plan
- Allocate sufficient **budget** and equipment for safety measures, training, and protective gear.
- Develop and regularly update an **Emergency Response Plan**.
- Include OH&S requirements in **contracts and bidding documents**.
- Incentivize good OHS practices and penalize non-compliance.

Key Questions

- Which safeguard clauses must appear in every contract?
- Should safeguards clauses be bid evaluation criteria or post-award?
- How do PIUs ensure consultants/contractors deliver?
- Which safeguard clauses work best when linked to payments?
- What prevents adoption of stronger clauses now?

Wrap-Up & ESF Bridge

Key Takeaways

- Safeguards must be written into procurement, costed, and auditable.
- Weak clauses = weak compliance.
- Contracts are the first line of defense.

SPS → ESF alignment:

- SPS (2009): Pollution prevention, OHS, disclosure, GRM, EMPs.
- ESF: ESF → ESS1, ESS2, ESS4, ESS10 require **risk-based systems, labour & OHS, and enforceable GRM clauses**.
 - **ESS1**: Risk management system, enforceable in contracts.
 - **ESS2/ESS4**: Worker & community health and safety, tied to OHS clauses.
 - **ESS6**: Biodiversity offsets in procurement.
 - **ESS10**: Stakeholder engagement, GRM enforceable at contract level.



Session 3:

Operationalizing EMPs: Budgeting, Monitoring, and Shared Accountability in Implementation

Objective: This session will focus on how EMPs become daily accountability tools when **costed, monitored, and enforced**.

Duration: 90 minutes

“Strong clauses in contracts mean little unless they are costed, monitored, and enforced.”

Common Weaknesses and Problems

- EMPs often = documentary compliance.
- Frequently unfunded and unenforced.
- Treated as Borrower-only responsibility → not shared accountability.

Why This Matters (TA 10110 Lesson)

- EMPs can be budgeted into BOQs.
- EMPs can be monitored in real time with checklists, dashboards, evidence photos.
- EMPs can be adapted to site risks as conditions evolve.

Case Study: Transforming Paper EMPs into Measurable Field Actions

Project: Georgia E60 Highway Sections F2 & F4

Presenters: Lika Bubashvili and Tamar Nasuashvili

EA/IA: MoI/RD

Presentation Overview

Transforming Paper EMPs into Measurable Field Actions

Session Objectives:

- Share Georgia's journey from provisional sums to itemized environmental actions
- Demonstrate financial mechanisms that drive EMP compliance
- Present digital tools for real-time monitoring and accountability
- Provide replicable solutions for regional projects

Key Focus Areas:

- EMP-BOQ Integration
- Payment-linked compliance systems
- Multi-stakeholder coordination
- Technology-enabled monitoring

1. Documentation vs. Reality Gap

- EMPs treated as approval requirements, not operational guides
- Multiple mitigation measures with no clear implementation pathway
- Monitoring requirements without verification mechanisms

2. Contractual Disconnect

- Provisional sums allocated without specific deliverables
- Lack of linkage between EMP compliance and payment certificates
- Weakness in contracts to capture environmental performance metrics

3. International Contractor Barriers

- International contractors unfamiliar with Georgian regulations
- Translation issues: Technical environmental terms
- Different safety and environmental cultures

4. Accountability Vacuum

- No clear responsibility matrix
- Missing cost-benefit linkages
- Weak enforcement mechanisms

Three-Tier Verification System

Tier 1: Daily Self-Monitoring (Contractor)

- Digital checklists on tablets
- GPS-tagged photo documentation
- Comprehensive daily reporting

Tier 2: Weekly Independent Verification (CSC)

- Random sampling protocols
- Laboratory test coordination
- Non-conformance tracking
- Corrective action monitoring

Tier 3: Monthly Oversight (RD + External Monitor)

- Comprehensive audits
- Community feedback integration
- Adaptive management decisions
- Semi-annual report preparation

Institutional Capacity Gains

Roads Department:

- Dedicated Environmental Unit
- Developed EMP templates
- Created contractor pre-qualification criteria

Contractor Transformation:

- International contractors maintaining local environmental teams
- Supply chain environmental standards adopted
- Comprehensive worker induction programs
- Emergency response protocols established

Supervision Consultant Advancement:

- Shift from checklist to risk-based approach
- Enhanced monitoring capabilities
- Reporting systems operational
- Independent verification protocols standardized

F2 Mountainous Terrain



Challenges:

- **Tunnel Spoil Management:** Large volumes requiring disposal
- **Forest Compensation:** Complex coordination with National Forest Agency
- **Access Limitations:** Monitoring steep slopes
- **Weather Windows:** Limited working periods



Successes: Managing Complex Terrain

- **Infrastructure Delivered:**
 - **20 tunnels** with 9.1 km total length
 - **35 bridges** (18 TA + 17 AT carriageways)
- **Minimal slope failures** despite challenging topography
- **Successful forest area management** through compensation program

Georgia's Mountain Road Projects: Case Examples in Sustainable Planning- F2 Section – E60 Highway



Khevi–Ubisa (F2 Section): A Practical Challenge

Due to its geographic location, the project required the construction of multiple tunnels to cross steep valleys and Section occupies a transitional zone between the Lesser Caucasus foothills and the Imereti lowlands.

The RD faced a **major challenge** during the design stage: **how to safely manage spoil material generated from tunnel construction.**

Traditional disposal methods proved inadequate due to:

- Limited suitable disposal locations in mountainous terrain
- High transportation costs and environmental impacts
- Community concerns about landscape alterations
- Long-term stability risks in a seismically active region
- Potential impacts on water resources and biodiversity

RD goal was not only to solve the spoil problem temporarily, but to find a long-term solution. That is why the project team decided to establish one of the spoil disposal areas near the highway, close to Sakasria village.

This decision was not accidental , in this region land is very limited and the team recognized that if properly designed, the area could later become a valuable asset for the community and the municipality.

During implementation, strict technical standards were applied: material was placed in 30 cm layers, compacted to 96–98% density, with drainage designed for 100-year storm events. These measures ensured long-term stability.

At the same time, community consultations revealed strong local demand for social and cultural spaces. This feedback directly influenced design modifications: Instead of leaving the site as a closed technical facility, the SDA was transformed into a functional public space.

On this site, an agricultural market was established, designed to serve both local producers and residents. This facility not only addressed the technical challenge of spoil management, but also created direct economic and social benefits for the community.

Based on the success of the F2 project, the RD has developed a clear model for future SDA transformation initiatives. This model demonstrates how technical requirements can be combined with community needs, providing a practical framework that can be adapted to different local contexts.

Following the successful experience at F2, the same approach was applied to the F4 section. Here as well, the focus on integrating community needs into the earliest planning stages, combined with strict technical and environmental standards, led to positive results.

The F4 case further confirmed that the SDA model developed in Georgia is both replicable and adaptable to different project contexts



One of the most effective innovations introduced on the F2 section was the **Drone Monitoring System**. Traditional slope inspections were time-consuming and often risky, especially in steep or inaccessible areas.

As part of the seasonal monitoring of one spoil disposal area, drones were used to verify the proper functioning of the drainage system. Because the site was located in a steep valley, it was difficult to visually inspect all sections on the ground. Drone surveys revealed water accumulation in one part of the site and based on these findings, additional drainage measures were implemented.

Drones were also successfully applied to monitor river levels at the confluences of the **Zirula** and **Rikoti** rivers. This made it possible to check for water accumulation along the riverbanks and to detect potential risks that could not have been easily identified through traditional inspections.

The RD introduced the practice of using drones to capture aerial footage of the construction site during the construction period. This approach proved valuable for several reasons: it provided a clear visual record of site progress, helped track compliance with environmental measures, enabled early detection of non-conformities and created a transparent archive that could be shared with supervisors, contractors and the community.

Since this practice proved effective, the RD also started applying it during pre-construction surveys. Aerial footage of the project area taken before the start of works provided a reliable baseline. This helped document the original state of the terrain, identify sensitive areas in advance and later compare conditions to verify whether environmental safeguards were properly implemented.

Importantly, this baseline imagery also became highly valuable during re-cultivation. It provided a clear reference point to restore the site as close as possible to its original state and to minimize the long-term visual impact on the surrounding landscape.



Drone imagery revealed that water was infiltrating into the ground and gradually disappearing, highlighting the need for a drainage design solution that would prevent water from escaping

Climate Adaptation Activities

- ☐ Green Infrastructure measures in the design;
- ☐ Restoration of forests;
- ☐ Flooding prevention;
- ☐ Erosion prevention;
- ☐ Lower cost;
- ☐ Resilient.



F4 Groundwater and surface water monitoring



Challenges:

- **Water Quality:** 12 bridge constructions near river
- **Agricultural Impact:** Land fragmentation affecting farms
- **Community Disruption:** Dust and noise in villages
- **Cultural Sites:** Archaeological discoveries requiring assessment;
- **Budget Structure:** Environmental Management Plan (EMP) costs included as a lump sum;
- **EMP Budget:** EMP budget proved insufficient during construction;

F4 Groundwater and surface water monitoring

Groundwater Monitoring:

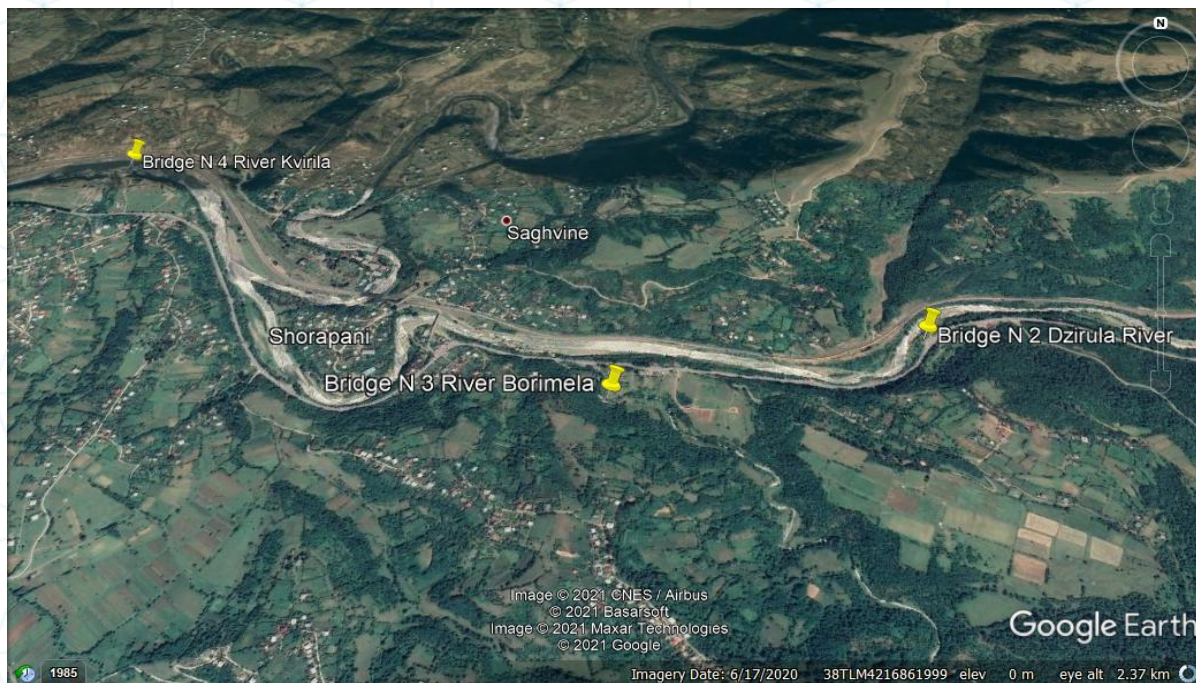
- **Planned by EMP:** 16 wells;
- **Actual:** 127 wells;
- **Additional:** Assessment of groundwater contamination levels;
- **EMP budget increased accordingly**

River Water Quality Monitoring:

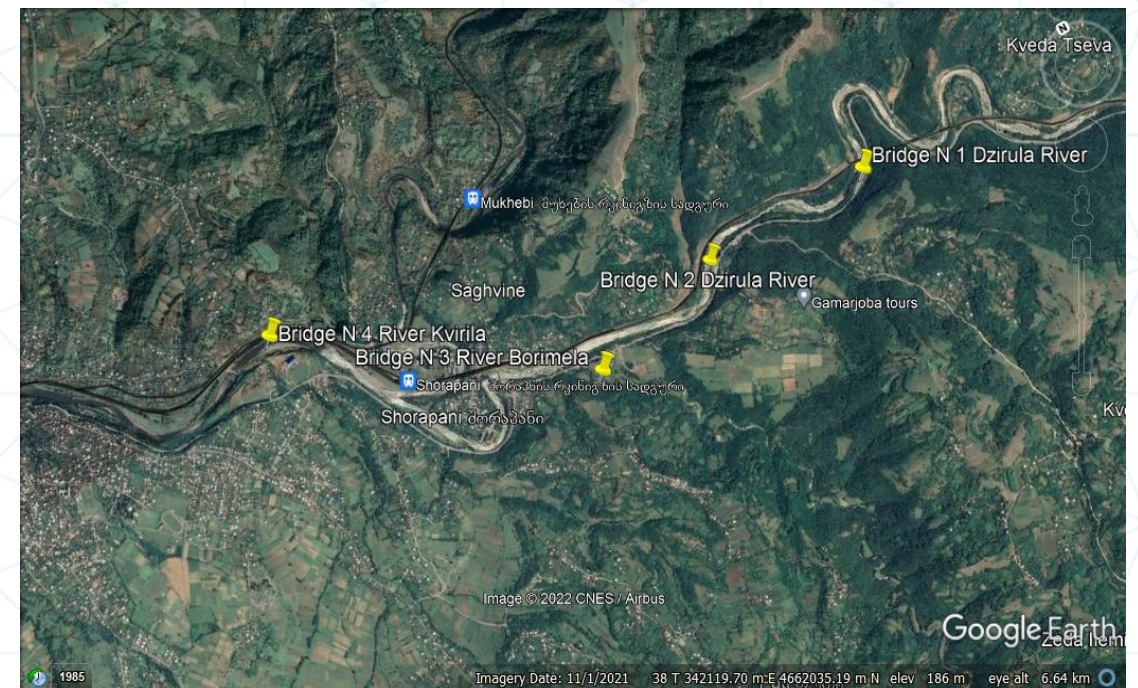
- **Planned by EMP:** 3 monitoring points
- **Additional:** 4th point required (due to concrete plant)
- **EMP budget increased accordingly**

F4 Surface water monitoring

Surface water monitoring locations (by EMP)



Surface water monitoring locations (Actually)



F4 Groundwater water monitoring

Groundwater monitoring locations (by EMP)



F4 - Air Quality, Noise & Vibration Monitoring

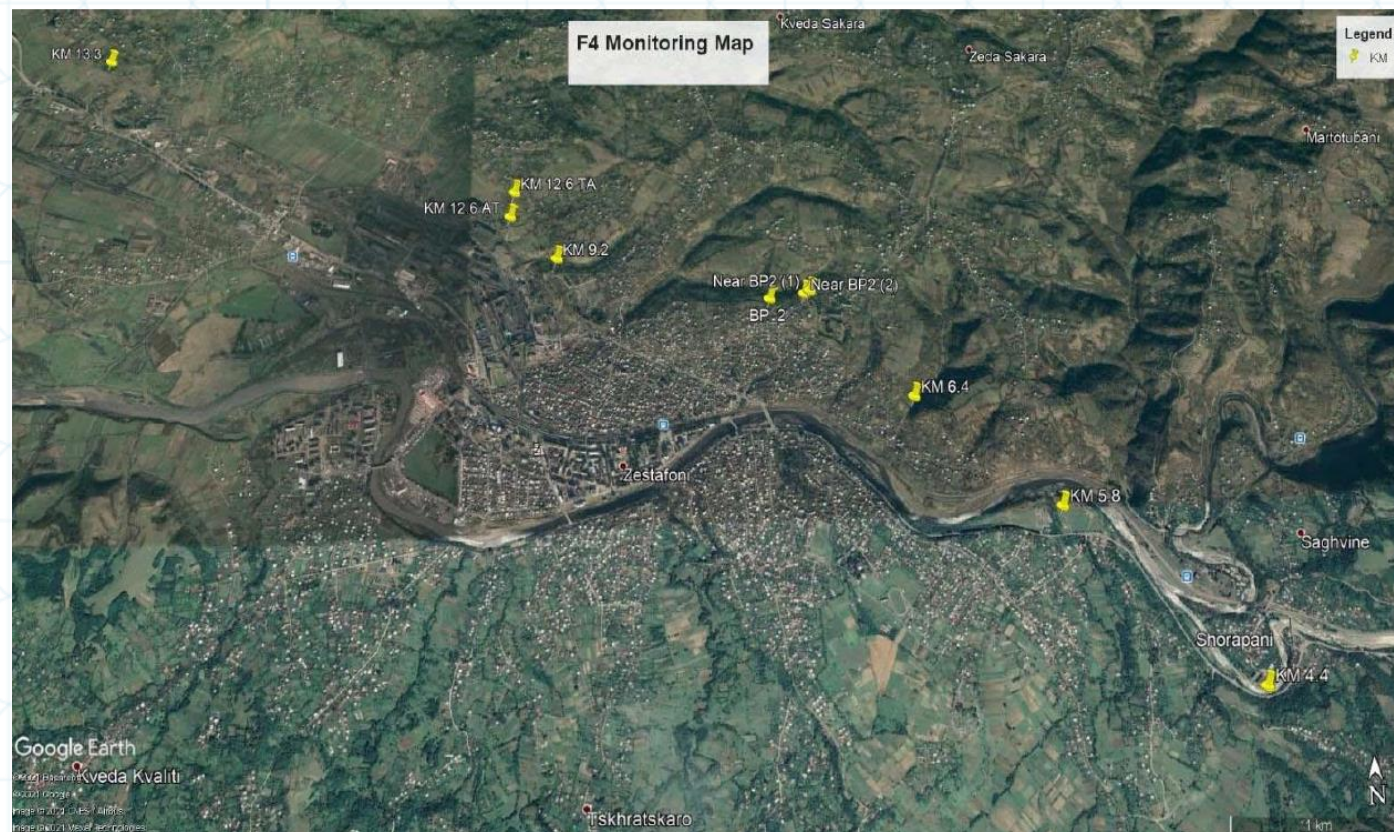
monitoring locations (by EMP)

Air Quality, Noise & Vibration Monitoring: Planned by EMP:

- Air quality & noise: 6 points
- Vibration: only at tunnels

•Actual:

- Air quality & noise: 12 points
- Vibration monitoring added at the same 12 points



For Project Managers:

- Budget 3-5% for environmental management
- Integrate EMP into contracts from procurement
- Establish payment-performance links
- Invest in early capacity building

For Environmental Specialists:

- Focus on measurable indicators
- Develop visual communication tools
- Engage communities as partners
- Document and share lessons

Effective EMP implementation is an investment in project success, not a cost

Case Study:

Safeguards Embedded in Bidding and Site Selection

**Project: ARM Climate-Adaptive Food Security Enhancement Project
(CAFSEP)**

Presenter:

Ruzanna Voskanyan

Environmental & Social Safeguards Specialist

Project Implementation Team

Ministry of Economy, Republic of Armenia

Project Overview



From
the People of Japan



Ministry of Economy of the
Republic of Armenia



Climate-Adaptive Food
Security Enhancement Project

Grant No.: 9241-ARM

Funding: US\$3.0m (JFPR, ADB) + US\$0.53m GoA

Executing Agency: Ministry of Economy (MoE)

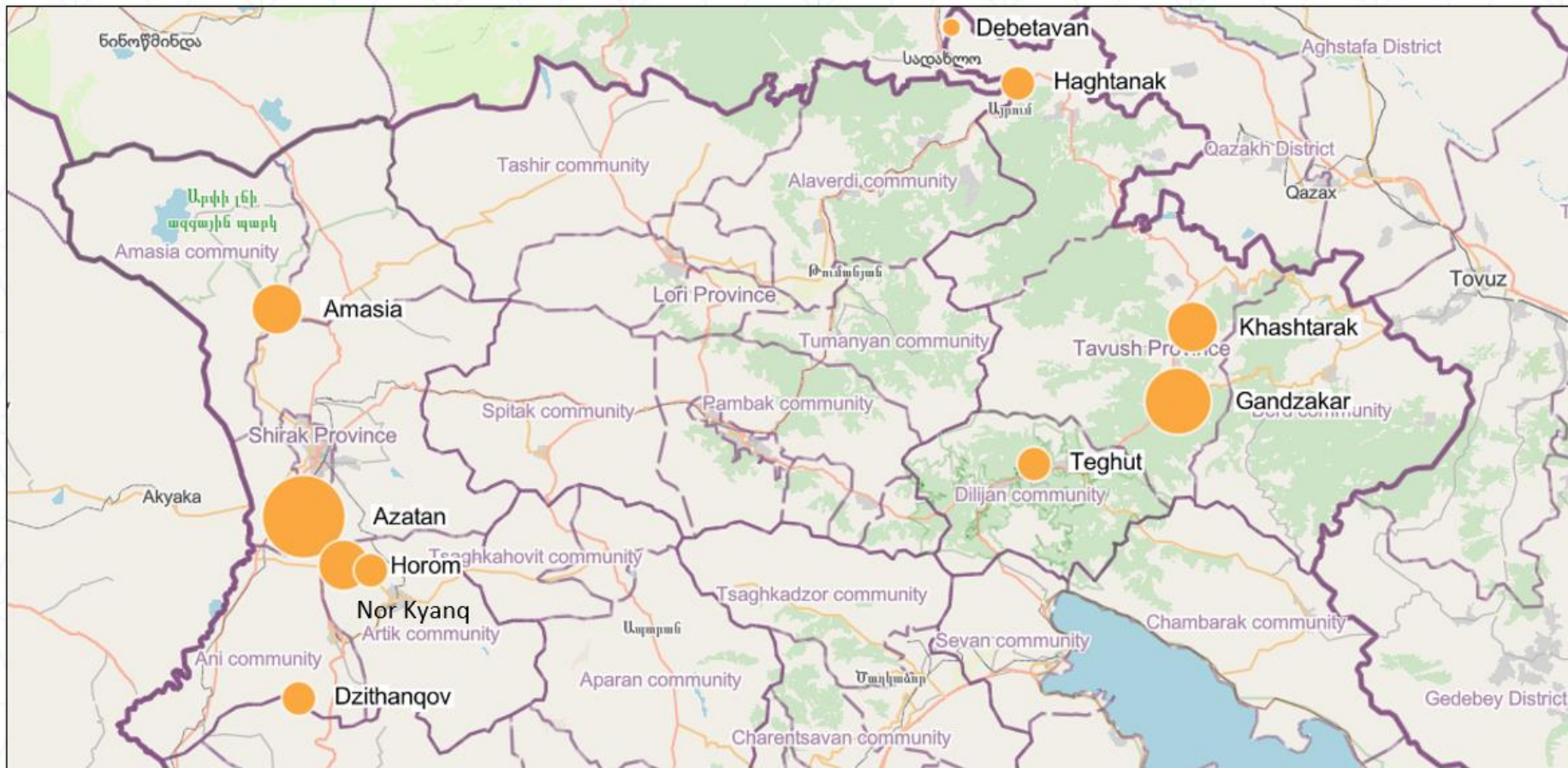
Implementing Agency: Project Implementation Team (PIT)

Advisor: World Food Programme (WFP, TA)

Grant Closing Date: 30 Jun 2027

Settlements in Shirak and Tavush Provinces

CAFSEP focuses on **Shirak and Tavush provinces**, where rural communities face **high poverty rates, food insecurity, and climate-related risks**.



Project Description

Key components are the following:



**Climate-Resilient
Energy Solutions**

Install solar PV stations in **10 settlements**;
reinvest energy savings into climate-adaptive agriculture



**Climate-Smart
Livelihood Support**

Mainstreaming climate-smart agriculture through
engagement of **230 households**



**Institutional
Capacity Building:**

Strengthen MoE's capacity to plan and implement **climate-responsive agricultural investments**

Safeguards: Classified as Category 'C' for environmental & resettlement

Why Early Safeguard Integration Matters



- Aligns project with **ADB's Safeguard Policy Statement (SPS, 2009)**
- Prevents **non-compliance** later
- Promotes **safe, inclusive, and sustainable** implementation
- Minimizes implementation **risks** and avoids **delays**
- Ensures **environmental & social safeguard compliance** from the outset
- Builds **trust with communities and stakeholders**

Case: Procurement of the Rural Development and Agriculture Consultant (RDAC)

- Participated in the bid evaluation process to ensure alignment with safeguard requirements
- Revised Terms of Reference (TOR) to comply with ADB's SPS (2009)
- Confirmed safeguards classification as Category C (environment & resettlement)
- Embedded Environmental Due Diligence Report (EDDR) and Social Safeguards Due Diligence Report (SDDR) in the consultant's obligations

 **Safeguard requirements were embedded before contract signing, ensuring contractor compliance and preventing risks during implementation.**

Safeguards Challenges & Solutions - Site Selection

Target Provinces: Shirak & Tavush

- Install solar PV stations in 10 settlements
- Reinvest energy savings into climate-adaptive agriculture

Site Selection Process:

- Collected community responses via online questionnaire
- Conducted joint field visits with PIT and local authorities
- Final selection based on environmental & social criteria:
 - Roof condition and exclusion of asbestos (initial screening)
 - Accessibility and potential environmental risks
 - Availability of community-owned buildings



 **Safeguard screening ensured risk prevention and transparency.**

Procurement:

- TORs revised to align with ADB SPS (2009)
- Safeguards embedded in contracts
- PIT E&S is involved in bid evaluation & negotiations

Site Selection:

- Participatory process with PIT & communities
- Field screening excluded asbestos risks
- Sites ensured safety, inclusiveness & compliance

Stakeholder Engagement:

- Transparent community consultations
- GRM established for early issue resolution



TA Contribution

- Training of IA/PITs on ADB safeguard requirements

Key Outcomes & Lessons

- Early integration ensures compliance
- Disclosure builds transparency & accountability
- Community participation strengthens trust and ownership



Lessons for scaling to other DMC projects

Institutional Capacity Gains

- ✓ EMP–BOQ integration template and clear accountability chain:
TOR → bid → contract → monitoring
- ✓ Compliance scoring matrix
- ✓ Contractor induction checklists. Early mainstreaming of GRM (awareness posters, complaint logs)
- ✓ Strengthened borrower systems for roles, procedures, monitoring, and reporting.

Safeguards embedded early = low cost, high return.



Good Practices & Replicability Takeaway

- Early safeguard integration proved to be cost-effective and high-impact, avoiding delays and redesigns.
- Participatory site screening and clear criteria-built ownership and reduced risks.
- Embedding EDDR/SDDR in contracts strengthened accountability throughout implementation.
- GRM strengthens transparency and community trust.
- CAFSEP experience provides models that can be applied in agriculture, infrastructure, and rural development projects.

- Early safeguard integration reduced risks and built stakeholder confidence.
- Strong foundations established for sustainable and inclusive outcomes.

Going forward, PIT/MoE will:

- Ensure safeguard provisions are embedded in all CAFSEP procurements.
- Develop a knowledge product on early safeguard integration for future projects.
- Maintain GRM readiness for transparency.
- Align with ADB safeguards through risk-based planning and stronger systems.

Case Study:

Health and Safety in Distribution Network Digital Transformation and Resiliency Project

**Project: L4326-UZB: Digitize to Decarbonize –
Power Transmission Grid Enhancement**

Presenter: Azizbek Botirov, Head of Department of Ecology, Social and Land Relations
EA/IA: “National Electrical Grid of Uzbekistan” JSC

ADB Loan 4326-UZB signed on 24 November 2023 for \$125 million

- . 465 km grid upgrade for decarbonization, digitalization, stability.
- . High-risk works: excavation, high-voltage, outages.



Brief Project Context



Objectives



Scope of Works



Contracts

- Enhance reliability & stability of Uzbekistan's power grid
- Digitalize grid with SCADA-ready technologies
- Reduce blackouts & transmission losses
- Support green economy & renewable integration

Brief Project Context



Objectives



Scope of Works



Contracts

- Construction of 12 transmission lines (110–220 kV, ~359 km) across 7 regions
- Construction of 4 high-voltage substations modernized & climate-resilient
- All facilities equipped with modern switchgear, transformers, optical ground wire, control systems, and rooftop solar (100 kW each for substations)

Brief Project Context



Objectives



Scope of Works



Contracts

- Project Implementation Consultant - JV of SMEC International Pty. Ltd. and Tractebel Engineering GmbH
- 5 EPC (engineering, procurement, and construction) contracts

Safeguards Challenges

- Managing high-voltage and working-at-height risks during tower assembly.
- Ensuring OHS and EMP compliance across multiple contractors and subcontractors.
- Timely communication with communities during planned power outages.
- Maintaining worker and public trust in high-risk construction environments.

Cross-Cutting Issues and Solutions Introduced



Integration of OHS into EMPs → SSEMP and OHSMP revised to emphasize working-at-height controls and mandatory use of fall protection.



Shared Accountability → A joint investigation commission (IA, Contractor, Consultant) was established; notifications were sent to ADB and national authorities.



Risk Elimination Measures → Suspension of all high-risk works until new Job Safety Analyses (JSA) and Safe Work Method Statements (SWMS) were developed.



Capacity Building → Toolbox talks and inductions updated to task-specific safety; site-level HSE officers deployed.



Compensation → Provided as per national law.



Successes:

Transparent reporting and investigation strengthened trust with ADB and regulators.

Immediate corrective measures introduced (safety harnesses, HSE staffing, new PTW procedures).



Challenges:

Inconsistent OHS culture among subcontractors.

Gaps in supervision and enforcement despite available PPE.

Limited medical preparedness for remote worksites (40+ min ambulance delay).



Adaptive / Innovative Measures:

Mobile checklists for supervisors to record daily OHS compliance.

Behavior-Based Safety (BBS) approach introduced to address unsafe worker practices.

Emergency preparedness plan revised for remote areas, including faster medical evacuation protocols.

- Immediate suspension of works to review safety procedures following an incident.
- Formation of a joint investigation commission (IA, Contractor, Consultant).
- Official notifications sent to ADB and national authorities.
- Corrective Action Plan developed, including mandatory use of safety harnesses, site-level HSE officers, and task-specific Job Safety Analyses.
- Compensation provided as per national law.

Reporting and Follow-up Process

Incident Notification Form

Accident Analysis Report

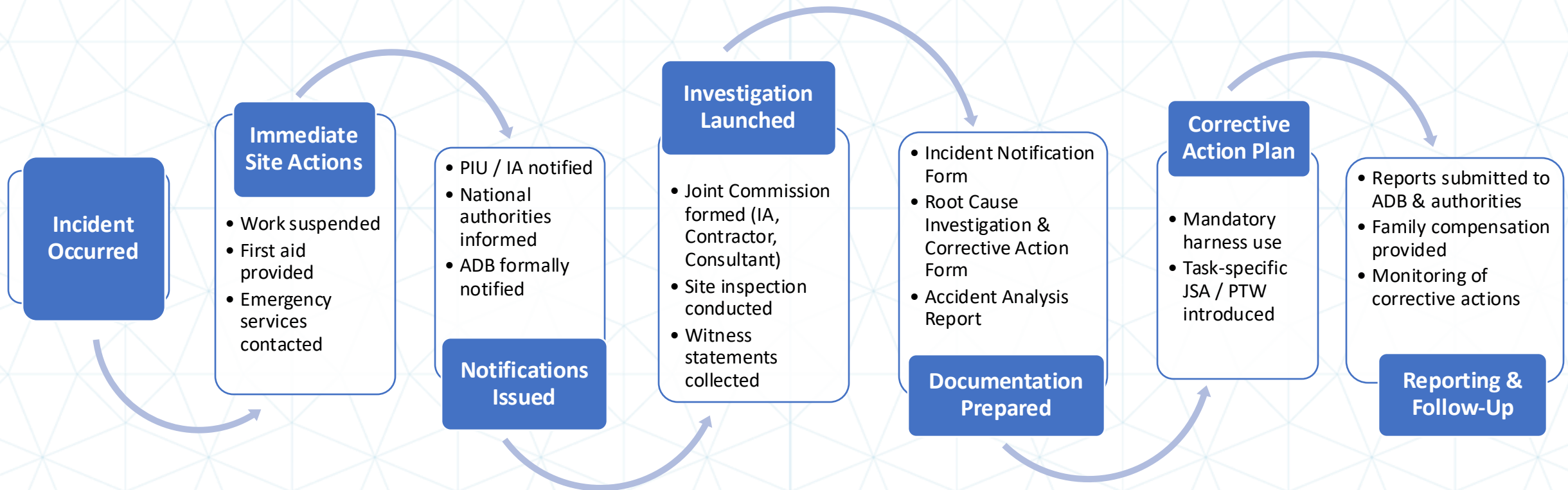
Root Cause & Corrective Action Plan

Integration into SSEMP/OHSMP

Reporting to ADB



Reporting and Follow-up Process



Institutional Capacity Gains

- NEGU introduced **formal procedures** for high-risk work authorization (PTW for tower climbing).
- **Corrective Action Plans (CAPs)** institutionalized, linking non-compliance with penalties.
- PIU and contractors trained in **incident reporting, root cause analysis, and corrective action planning**.
- **Regular OHS audits** and reporting now integrated into EMP monitoring.



- ✓ Provision of PPE is **not sufficient**; enforcement and supervision are equally critical.
- ✓ **Task-specific induction and toolbox talks** must be documented and reinforced daily.
- ✓ **No high-risk task** should proceed without real-time supervision by trained HSE staff.
- ✓ **Medical fitness screening** for workers (esp. over 40 years) is essential.
- ✓ Remote sites require **enhanced emergency preparedness** to offset ambulance delays.
- ✓ A genuine **safety culture** is needed, where workers themselves internalize safety rules, not just follow them “on paper.”

Good Practices & Replicability Takeaway

Practices Implemented After the Incident

- Joint EMP + OHSMP Monitoring
- Contractor Accountability
- Mandatory Fall Protection
- Task-Specific JSA/SWMS
- Compensation and Support

Forward-Looking Practices for Replication

- Third-Party Safety Audits
- Medical Screening for Workers 40+
- Enhanced Emergency Preparedness

Forward-Looking Actions / Next Steps for Sustainability

Institutionalize **zero tolerance for working at height without fall protection**.

Require **JSA/SWMS (Job Safety Analysis / Safe Work Method Statement)** for all tower works before start.

Expand **digital safety monitoring tools** for real-time reporting.

Establish **contractor penalty systems** for repeated breaches.

Institutionalize **medical screening programs** for workforce.

Deploy **dedicated site HSE officers** at all high-risk locations.

Strengthen **community and worker trust** through transparent disclosure of incidents and corrective actions.

Linkages to ESF Policy Requirements (ESS2 & ESS4)



ESS2 (Labor and Working Conditions):

- safe working environments and strict use of PPE.
- age-sensitive medical screening and regular health checks (esp. for workers 40+).
- task-specific training, toolbox talks, and Job Safety Analyses (JSAs) for high-risk activities.
- accessible worker grievance



ESS4 (Community Health and Safety):

- Validates risk elimination before work
- need for transparent outage communication with communities to maintain trust.
- emergency preparedness for remote sites, where delayed medical response times increase risk.

“Monitoring without enforcement is just reporting. Accountability comes from payment linkage and shared ownership.”

Audience Q&A Questions

- When was the last time your EMP was updated — and what triggered it?
- Do you have budget line items for EMP implementation?
- What's one monitoring tool that changed contractor behavior in your project?
- How do you prove EMPs are implemented daily to auditors?

Key Takeaways

- EMPs must be costed, monitored, enforced.
- Shared accountability = Borrower + Contractor + ADB.
- Digital tools + payment linkage make compliance visible.

ESF Bridge

- **SPS (2009):** mitigation hierarchy, monitoring & reporting, disclosure while
- **ESF (ESS1):** risk-based EMPs, CAP verification, adaptive management.
- **ESS2/4:** OHS and labor standards in worker camps.
- **ESS10:** disclosure, grievance follow-up.

This is where SPS practice matures into ESF readiness: verifiable, budgeted, enforceable EMPs.



Session 4:

Making Grievance Redress Work: Strengthening Risk-Based Approaches Across ADB-Funded Projects

Duration: 60 minutes

“GRMs are only credible when they resolve complaints and feed back into project design — not when they sit on paper.”

- GRMs often treated as “tick-box” requirements.
- Problems: underfunded, weak authority, poor closure tracking.

Without functioning GRMs, risks escalate to disputes, delays,

Case Study: Community-Driven Project Modification Through Effective GRM

Project: GEO GRM-Driven Design Change – Gudauri WWTP

Presenters: Ketevan Chomakhidze & Salome Mosidze

EA/IA: United Water Supply Company of Georgia (UWSCG), MRDI

Presentation Overview

Operationalizing Effective GRMs for Infrastructure Projects:

- Responding to environmental complaints
- Integrating community concerns into management plans
- Tracking, resolving, and documenting grievances
- Field-level coordination among contractors, PIUs, and communities
- Using complaints data to strengthen environmental supervision

Gudauri WWTP Project Specifications:

- **Location:** Stepantsminda District, 2,200m elevation
- **Strategic importance:** Tourism hub, Ski Resort, 120km from Tbilisi
- **Sewerage network constructed:** 21,221 meters
- **Treated water discharge pipeline:** 2,725 meters to Aragvi River
- **Environmental category B**

Construction of five WWTPs in Gudaure (GUD-03)

- WWTP N1 - North of Gudaure (750 m³/day);
- WWTP N2 - Located at the same site that the old WWTP (2000 m³/day);
- WWTP N3 - Gudaure Downtown (350 m³/day);
- WWTP N4 - Plateau-Lower Gudaure (750 m³/day);
- WWTP N5 - Village Seturebi (350 m³/day).

Location of WWTP N5 in Seturebi



- WWTPs (N1, N2, N3, and N4) are hydraulically interconnected and utilize a single collector system. The treated effluent from these plants is discharged through one outlet point into the Aragvi River.
- WWTP N5 was designed as an independent treatment facility, with its treated effluent to be discharged into a local ravine.

Discharge Pipe into Aragvi River (4 WWTPs) and WWTP N2



Safeguards Challenges

- WWTP No. 5 planned on land with no historical or archival information available to confirm ownership, there were a few old stones and some pear trees suggest there may have once been a homestead
- The complaint was filed in 2019; it was reviewed by the UWSCG GRM Committee and subsequently by the GRM Commission, in accordance with Decree No. 196
- Complex intersection between infrastructure development and community heritage
- During the project implementation, numerous meetings were held from the initial stage, including a meeting in 2019 as part of the EIA, yet the project site still encountered land possession concerns.
- Georgian legal constraints requiring pre-design surveys for site changes

Documentation of Key Milestones:

- 24 December 2019: Initial complaint registration
- 27 December 2019: Village Seturebi public consultation
- 17 February 2020: Grievance Redress Committee
- 31 July 2020: Grievance Redress Commission
- 26 December 2023: Change Order No. 1 submission
- 29 March 2024: ADB loan closing date
- December 2024: Post-construction audit completion

Cross-Cutting Issues:

- **Environmental:** Proximity to Kazbegi National Park boundaries
- **Social:** Community heritage and ancestral land preservation
- **Technical:** Site selection and alternative location feasibility
- **Institutional:** Multi-stakeholder coordination requirements

Solutions Implemented:

- Formal grievance registration in contractor logbook
- Public consultation within one week
- Grievance Redress Committee review per Order #196
- Technical feasibility assessment conducted

Community Participation Documented:

- Numerous meetings were held from the initial stage
- Local municipality representatives involved
- Gudauro and Seturebi residents consulted
- Business community engagement
- Supervision consultants: EPTISA and SAFEGE present
- Grievance logbooks maintained at construction sites
- Bilingual documentation provided

- **Full documentation trail**
Complaint → Review → Change Order → Final scope adjustment
- **Land preserved**
Decision respected community rights while delivering 4 of 5 WWTPs.

UWSCG Capacity Enhancement:

- Department of Permits, Environmental Protection and Social Affairs strengthened
- GRM Order #196 institutionalized procedures
- Multi-year documentation systems established
- Cross-functional coordination mechanisms developed

Contractor Development:

- CNI23 ESHS team training implemented
- Bilingual capacity (Georgian/English/Chinese)
- Method statements for high-risk construction areas

- ✓ **Rapid Response:** 3-day complaint registration essential
- ✓ **Community Engagement:** 7-day consultation timeline effective
- ✓ **Documentation Continuity:** 4-year tracking maintained
- ✓ **Institutional Flexibility:** Scope modification capability crucial
- ✓ **Multi-stakeholder Platform:** Regular coordination meetings
- ✓ **Government Commitment:** State budget financing continuation

Transferable Practices for Regional Projects:

- Immediate grievance registration in site logbooks
- Public consultation standard
- Formal committee structure with clear procedures
- Transparent documentation (minutes, signatures, photos)
- Change order mechanisms for justified modifications
- Post-construction environmental audits

GRM Excellence for Sustainable Development

- ✓ **Immediate Response:** 3-day registration, 7-day consultation
- ✓ **Institutional Flexibility:** Project scope adapted to community needs
- ✓ **Documentation Excellence:** 4-year continuous tracking
- ✓ **Stakeholder Trust:** Transparent processes throughout
- ✓ **Community Heritage Preservation:** Development with cultural sensitivity
- ✓ **Replicable Model:** Framework for regional WSS projects

Project Achievement: 4 operational WWTPs serving Gudauri tourism sector while preserving Seturebi village heritage site

- A. Ongoing monitoring of discharge infrastructure
- B. Protocol development for early-stage community consultation
- C. Standard operating procedures for future WSS projects
- D. Local-level grievance mechanism strengthening
- E. Regional knowledge sharing platform development

Audience Q&A

- What design features made your GRM more accessible (women, vulnerable groups, remote communities)?
- What's the one grievance that actually changed design in your project?
- Who signs off that grievances are closed — and with what evidence?

Wrap Up & ESF Bridge

Key Takeaways

- GRMs must be linked to EMPs, budgets, and authority.
- Closure = documented evidence, not verbal assurance.
- Scope changes are sometimes the most legitimate resolution.

ESF Bridge

- ESS10: Stakeholder engagement & accessible grievance redress.
- ESS1: Risk-based systems → GRM as proactive risk management.

“Procurement embeds safeguards (Session 2), EMPs resource them (Session 3), but only GRMs validate them with communities.”

Day 1 Recap

Session 2: Safeguards by Design — Embedding Environmental Compliance and Accountability into Procurement

- Procurement determines safeguard enforceability— clauses and BOQs must be enforceable - *if it's not in the contract, it won't happen*. Safeguards sustainability depends on institutional continuity.
- The Karachi BRT and Georgia's Liveable Cities Project showed that when compliance is tied to payment, contractors pay attention.”
- We now move from paper to practice — how EMPs are budgeted, monitored, and enforced during implementation.
- CAPs = Adaptive Management, not punishment.
- Link to Payments makes compliance real.

Session 3: Operationalizing EMPs — Budgeting, Monitoring, and Accountability in Implementation

- Safeguard continuity depends on institutional capacity, not individuals.
- An EMP without resources / ample budget is just wishful thinking — budgeting and monitoring make it real
- Corrective action plans are the currency of accountability: find, fix, verify
- Next ,we'll see how institutions themselves must be structured to hold safeguards capacity over time, beyond individual projects

Session 4: Making Grievance Redress Work — Strengthening Risk-Based Approaches Across ADB-Funded Projects

- A credible GRM is more than a desk — it's a risk management tool that can reshape project design.
- Case studies showed that listening and adapting, even dropping a component, builds legitimacy and safeguards compliance.
- The message across all sessions: safeguards only deliver when they're designed into contracts, resourced in EMPs, embedded in institutions, risk-proofed by design, shared across stakeholders, and ultimately validated by communities.



Thank you!

